

# MANUFACTURERS' RECORD

A WEEKLY SOUTHERN INDUSTRIAL, RAILROAD AND FINANCIAL NEWSPAPER

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## Manufacturers' Record.

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BALTIMORE, OCTOBER 20, 1904.

Mr. J. H. Reeves, secretary of the Eufaula (Ala.) Board of Trade, writes to the Manufacturers' Record as follows:

Our cotton crop is being gathered unusually rapidly; fully 90 per cent. is out of the field. Good prices are making us farmers independent, and in a few years we will have plenty of everything, including money.

This is a report which in its general aspects could be duplicated for many parts of the South. Whether the cotton is being gathered rapidly or slowly the Southern farmers are becoming independent, and with the millions of money added annually through them to the South's resources, the prosperity of that section is becoming more and more notable.

### COTTON EXPORTS.

More raw cotton was exported from this country last month than in any September during the past 21 years, and the export price per pound, 10.6 cents, was exceeded only twice during that period. The following table shows the quantity of cotton exported in September from 1884 to 1904, its value and the average price per pound:

September—	Quantity. Pounds.	Value.	Price per pound. Cents.
1884.....	61,421,108	\$6,559,235	10.7
1885.....	61,146,555	6,255,306	10.2
1886.....	74,758,895	7,190,903	9.6
1887.....	144,707,538	13,792,442	9.5
1888.....	89,087,099	9,017,463	10.1
1889.....	176,076,523	17,918,523	10.2
1890.....	207,085,122	21,096,440	10.2
1891.....	117,542,051	10,994,955	9.4
1892.....	96,072,100	7,033,677	7.3
1893.....	85,415,155	6,818,247	8.0
1894.....	124,205,042	8,172,421	6.6
1895.....	64,699,296	4,925,015	7.6
1896.....	214,354,826	16,849,258	7.8
1897.....	219,548,930	14,649,107	6.7
1898.....	168,083,316	8,928,840	5.3
1899.....	270,804,478	17,088,344	6.3
1900.....	195,498,292	20,198,775	10.3
1901.....	200,610,721	16,498,966	8.2
1902.....	347,596,100	29,930,815	8.6
1903.....	196,505,694	21,179,900	10.8
1904.....	410,940,894	43,742,325	10.6

The large increase last month is partly responsible for the weight in the total exports of cotton during the nine months ended September 30. The total value of all exports or merchandise in that period was \$985,470,972, a decrease of \$3,805,499 from the value in the same period of 1903. The aggregate value of breadstuffs, cattle, hogs and sheep, provisions, cotton and mineral

oils exported was \$465,423,766, a decrease of \$51,718,242. There was a decrease of \$74,114,308 in breadstuffs, \$10,409,114 in provisions, and an increase of \$4,418,999 in cattle, sheep and hogs, \$9,070,086 in mineral oils and \$19,316,095 in cotton.

Advertisements of Southern localities offering special advantages for the location of manufacturing enterprises will be found on pages 58 and 59.

### COLORADO'S SAD FLIGHT.

The Manufacturers' Record has received from "The Law and Order Enforcement League of Colorado" a circular-letter calling for financial and moral support of the league in its campaign for the re-election of Governor James H. Peabody. The circular reads:

The question of his re-election is of national importance. It should be assisted by good citizens, no matter where they reside. Every vital principle of individual liberty and property rights is woven into his re-election. His administration has established precedents which will be as useful to you as they are to us in Colorado. These precedents must be confirmed and ratified at the polls in November. The most desperate and resourceful campaign ever waged is now being made to defeat him by the socialistic elements throughout the United States. They have made Colorado their battleground for several years.

About six months ago the Manufacturers' Record took occasion to commend, as an example for executives of higher or lower order in other parts of the United States, the course of Governor Peabody in dealing with the elements of disorder and revolution in Colorado. Subsequently we were obliged to modify our judgment of Governor Peabody because of the employment of the machinery intended for the enforcement of law and order in effecting utterly lawless undertakings, notably the deportation of men from the State. If we are not mistaken, a law and order league was concerned in those undertakings partaking of the nature of fighting the devil with fire, but yet as fatal to the principle of individual liberty and property rights as the acts of criminal violence which they would suppress. At this distance anarchy seemed to be the state in Colorado. And it appears that an endorsement of any party to that state would not be for the welfare of Colorado or for strengthening of law and order in the rest of the country.

Mr. R. L. Pritchard, industrial and immigration agent Louisiana & Arkansas Railway Co., writes from Hope, Ark., to the Manufacturers' Record as follows:

I thank you for continuing the paper without interruption, as I cannot afford to be without it.

In subscribing to the Manufacturers' Record Mr. J. M. Hannan, Jr., of Norfolk, Va., writes:

I have found the sample copy mailed me to be a most valuable addition to my business. Thank you for the same.

### NEW ENGLAND AN INSPIRATION TO THE SOUTH.

New England buying its coal in Virginia, West Virginia and Maryland, its iron in Alabama, Virginia and Pennsylvania, much of its timber in the far South, all of its cotton in the South except a few thousand bales in Egypt, and its foodstuffs in the West, has developed an industrial life and a general wealth which should be a tremendous inspiration to the South. With an area of only 62,000 square miles and a population of 5,500,000, against an area of 827,000 square miles and a population of 23,000,000 in the South, New England on its barren, rock-bound soil has created industrial interests producing nearly \$2,000,000,000 a year, against \$1,400,000 a year for the entire South. Massachusetts alone, with an area of only 8000 square miles, or nearly one-fourth the size of South Carolina, one of the smallest Southern States, has an industrial development which until a few years ago equalled that of the entire South, and even today, with all the advance which the South has made in cotton-mill interests, Massachusetts still has more cotton spindles than the 14 Southern States.

These facts are not presented as a criticism of the South, for conditions which have prevailed in the past were mainly responsible for the backwardness of the South's industrial life as compared with that of New England and the Middle States, but they are given as a suggestion to the South of the illimitable possibilities of the future. With more iron than all Europe possesses, with one-half of the standing timber of the United States, with coal estimated at forty times as much as Great Britain ever had before it mined a single ton, with 80 per cent. of the world's cotton production, with practically unlimited stores of oil, with a fertile soil capable of yielding almost every variety of agricultural products, and with a uniform rainfall, the South holds possibilities for manufacturing such as have been vouchsafed by nature to no other country on earth.

Pennsylvania has developed its enormous wealth out of its coal and iron and oil interests; New England laid the foundation for much of its vast wealth in the manufacture of cotton goods, and Great Britain has created its wealth on coal and iron and turning our cotton into finished products. The Northwest grew rich on timber. The South combines—and the South alone of all countries in the world has this combination—all raw materials possessed in part only by all these sections. It has possibilities for industrial development such as no other section or no other country can duplicate. Even if New England had had great natural resources, what it, as one of the leaders in American industrial development, has been able to accomplish should be an inspiration to the South, but what New England has accomplished without having natural resources should be a still greater inspiration to the South. In order that by the story of what other sections have done the South may gain a new conception of its own unlimited possibilities and may come to learn that the field for its development is broader and more inviting than that of any other country on earth, the Manufacturers' Record begins in this week's issue a series of letters dealing with the material upbuilding of New England. The general aim of these letters will be to cover broadly the material advancement of New England as an inspiration to the South.

### ANNUAL GAINS OF SOUTHERN RAILROADS.

The annual reports of many of the principal railroads in the South for the fiscal year ended June 30 last which have been published show a continued gain in gross earnings, and, with hardly an exception, in net earnings as well. In many instances the net earnings display smaller percentages of gains than the gross, this being a result of the proportionately increased operating expenses due to higher wages, etc. Of the companies whose reports are considered in this article, the Chesapeake & Ohio shows the greatest percentage of gain, and it is to be noted that its increase in net is very nearly, if not quite, equal to the increase in gross. The Louisville, Henderson & St. Louis Railway also displays a nearly equal percentage of gains in both gross and net,

although not so great increases as the Chesapeake & Ohio.

The percentages of increase exhibited by the different companies are as follows: Atlantic Coast Line gross 4.38 per cent., net 8.52 per cent.; Southern Railway gross 6.50 per cent., net 5.53 per cent.; Central of Georgia Railway gross 2.53 per cent., net 7.53 per cent.; Chesapeake & Ohio Railway gross 15.41 per cent., net 15.11 per cent.; Norfolk & Western Railway gross 7.75 per cent., net 1.46 per cent.; Louisville & Nashville Railroad gross 4.21 per cent., net 2.82 per cent.; Nashville, Chattanooga & St. Louis Railway gross 6.22 per cent., net .54 per cent.; Louisville, Henderson & St. Louis Railway gross 10.81 per cent., net 10.87 per cent.; Alabama Great Southern Railroad gross 12.71 per cent., net (decrease) 8.77 per cent.; Mobile & Ohio Railroad gross 3.37 per

cent., net 2.81 per cent.; Yazoo & Mississippi Valley Railroad gross 7.34 per cent., net 6.98 per cent.; Missouri, Kansas & Texas Railway gross 3.24 per cent., net .20 per cent.; St. Louis Southwestern Railway gross 5.09 per cent., net 10.16 per cent.

These reports speak strongly of the continued progress in the South, for notwithstanding the increased cost of operating railroads, the net earnings almost without exception show some gain, at least over the next preceding fiscal year. All the different reports, looking ahead toward the end of the current year, anticipate a continuation of the prosperous conditions in both agriculture and industries which have contributed to the success of the different lines during a period which, in comparison with the two or three years immediately preceding it, has been one of depression in most other parts of the country. Several of the principal Southern roads have extensive improvements under way preparing to handle increased business, and all of them are making ready in some way or other to meet the requirements of that growth of traffic which is sure to come as a result of the development of the South.

#### PRESERVING THE FORESTS.

Mr. Alfred Gaskill of the national bureau of forestry has pointed to the experience of New York, Pennsylvania and the Lake States as a warning to Louisiana against persistence in carelessness in the handling of its forests. The legislature of the State, reflecting the interest of the people in the question of forest conservation, has created a forestry commission, and Mr. Gaskill points out that this commission, in addition to making regulations for the handling of timber tracts, must see that they are rigidly enforced. He regards as the greatest menace the fires which are started after the trees have been cut so that the dry grass may be destroyed and fresh grass come up the next year, making the land fit for pasturage. These fires destroy young pine trees which, if properly cared for, would in 30 years or less yield a crop of timber. Of course, as Mr. Gaskill points out, where the land is needed for agriculture such care need not be exercised. But in the hill lands, comparatively scant in Louisiana, and in the swamp lands producing oaks, gums, ashes, elms, hickories and cypress there is no excuse for the destruction of young trees, and proper precautions would make the forests there practically continuous. In spite of the reign of steel and concrete in construction, the pressure upon the forest resources of the South is steadily increasing, and increasing because of shortsightedness in lumbering operations in other parts of the country. Such a policy persisted in will speedily destroy one of the South's most valuable endowments. The suggestions of Mr. Gaskill should therefore be adopted not only for Louisiana, but for other States where wholesale lumber operations are in progress. It is possible for the South to meet all the demands of agriculture upon it and at the same time keep its forests as a permanent source of supply of lumber.

In a letter to the Manufacturers' Record Mr. James C. Norman of Hamburg, Ark., writes:

You are doing a great work for the South, the chiefest of which is that you are pounding it into us who live in and own this land of "sunshine and flowers" the exceeding wealth of the country that has been so long laying fallow, but that just now is ready to burst into a golden harvest. By precept upon

precept you are making it so plain that even a wayfaring man can hardly fail to appreciate its splendid possibilities.

#### AN ALERT BUSINESS CLUB.

Mr. Charles N. Kight, secretary of the Business Men's Club of San Antonio, Texas, has brought to the attention of the Manufacturers' Record epitomes of reports of several committees of the club which indicate not only well-controlled activity of the organization to develop the commercial interests of the city, but also direct results of that activity in trade and manufacturing. The reports show satisfactory conditions in the retail trade and an attraction of new customers in the wholesale business traceable to the wide circulation of an attractive pamphlet about San Antonio, the local trade, under the spur of a movement for the support of home industries, having its effect in the enlargement of industrial plants and an increase in the number of employees. Prospects for securing a glass factory are good, and it is expected that at least two canning factories will be established in or near San Antonio in time for operation in the coming spring. By next year not less than 3000 acres of irrigated land will be in cultivation in Bexar county and not less than 15,000 acres in other parts of the Southwest. The enlargement of irrigated acreage is due, it is explained, to the high prices received for the products of such lands. One of the features of Texas agriculture is the early date of its products in the market. The potato crop of the southwestern part of the State has, it is claimed, control of the market for 30 days in the spring. And a shipment of more than 1000 cars is looked for from that section next spring. More than \$300,000 were distributed in the neighborhood of San Antonio this year as a product of the onion crop. Other committee reports tell of assured and contemplated improvement in sanitation and transportation and of the influx of farmers into the State, all encouraging the Business Men's Club to continue its energetic and practical work.

#### NO PETTY JEALOUSIES HERE.

Discussing the visit of the British Iron and Steel Institute to this country, Holland, the New York correspondent of the Philadelphia Press, says:

When the British Steel and Iron Association, the foremost organization of that kind in the world, meet in this city, as will be done in the course of a few days, the immediate topic of interest will be the peculiar course of the American iron and steel market. No doubt these great manufacturers of the United Kingdom have been closely watching the upward course of prices for the securities of the United States Steel Corporation, since in England the disposition is strong to accept these stock-market quotations as fair proof of the revival of the industry in the United States.

The professional speculator, the cynic and the pessimist here will have it that these advances in prices are due entirely to professional manipulation, forgetting that there was a time not long ago when not even the skill of James R. Keene or the combined forces of Mr. Morgan and his friends were able to prevent a steady decline in those prices.

No doubt manipulation has something to do with the appreciation of the Steel Corporation securities, and no one who did not have the gambler's instinct would venture to buy or sell steel securities unless he had something like expert information as to the probable future market for iron and steel products.

It was to the British Institute that it was once pointed out by a distinguished American that the iron and steel market is peculiar, almost exceptional in one respect, namely, that when there came a reaction from depression the rebound always carried the iron and steel industry many points beyond that which marked its activity before there came depres-

sion. It constantly advances, although there may be months of stagnation and retrogression, but when the day of prosperity comes it is a time of finer prosperity than was ever before enjoyed by this industry.

The British Institute will at some of its meetings discuss with its American brethren the future markets for iron and steel products, and especially will analyze various features of the present situation which have led some prophets to say that the iron age has ended and that the age of steel, the telephone and electricity has taken its place.

The iron and steel makers of the world—the foremost business men of Europe and America as they are—are always glad to meet in these conferences and study the world's metallurgical interests. Among men of such standing there are none of the small, petty jealousies which so often crop out among men of narrower views in other great industries, who sometimes do not seem to realize that out of such gatherings come influences which benefit the world's trade and all concerned.

#### APPEALS TO SOUTHERN CUPIDITY.

It is inevitable that preliminary notices of the annual Ogden Movement for Southern "education" shall contain direct or indirect seductive appeals to cupidity. Since 1900 the movement has been greeted by a steadily-decreasing number of Southern newspapers under misapprehension. To them has been suggested for local consumption the idea of a competition among different cities for the pleasure and profit of welcoming the Conference for Education in the South and the possibility of local educational institutions receiving largesses from the visitors. Last April, when a rivalry for the privilege of holding the conference in 1905 was supposed to be on at Birmingham, Columbia, S. C., was an aspirant, and the statement was published in that city—

One of the features of a convention of this kind is that the colleges that are visited are generally given a handsome endowment fund by some of the millionaire party.

Last week the matter was stirred up again upon receipt of letters indicating that Columbia was decidedly favored for the 1905 conference, and the statement was made:

The Conference is usually held during the last week in April, and is a matter of national importance. It is headed by R. C. Ogden and other Northern millionaires, and they visit the South in a special train. Where the meeting is held there is usually a gift to some educational institution, and usually those who attend take interest in the schools of the city.

Such statements are published in perfect honesty and in the sincere belief, on the part of persons fathering them, that there is financial gain in entertaining "R. C. Ogden and other millionaires." It is true that some money was left in Athens, Ga., in 1902, but not enough to justify this persistent allusion to millionaires and the suggestion of profit to be derived from them calculated to inspire with enthusiasm for the conference certain elements which, unfortunately for the South, too often come to the surface in movements for education.

As a matter of fact, the impression is growing that the first stop of the special train of the Ogdenites next spring will be at the University of Virginia, selected as a powerful lever in the campaign for the ogdenization or "democratization" of the South, and that any loose change the bunch of millionaires may have to spare will be left at that institution, in the semblance of an endowment fund, as a means of encouraging in other parts of the South expectant hospitality toward the movement.

#### The South Capable of Supplying the World's Demand for Cotton.

[New York Sun.]

At the suggestion of Mr. Richard H. Edmonds of Baltimore, European cotton spinners have been invited to visit the Southern States and personally to observe the methods of cotton-raising and the almost limitless opportunity remaining for an increased production.

Last month the Cotton-Growers' Association at St. Louis passed a resolution containing such an invitation. At the recent meeting of bankers in New York a resolution to a like effect was introduced by a Georgia bank officer, and various other organizations at the South and in the North have joined in the invitation. English cotton manufacturers look favorably on the project, and it seems settled that the party of observation and study will be formed on a large and representative scale.

The plan is to carry the visitors through the Southern cotton section at some time during the present month, exhibit to them the agricultural regeneration which has been effected there of late years, and then to hold a sort of international cotton spinners' convention. The originator of the scheme and all those familiar with Southern conditions are confident that the foreign spinners, together with those of the North to be joined with them, will be convinced by personal observation that the Southern cotton region is easily capable of producing all of the staple needed by the world now or likely to be needed for many years to come.

Incidentally, it is hoped that one of the results of such an inspection will be a stimulation of immigration to the South, where there are many millions of acres of untitled lands capable of producing as much cotton per acre as does the land now under cultivation, while at present there is no population sufficient to till them.

The Southerners have no doubt of their ability to demonstrate to the inspecting visitors that cotton-raising in the South promises better for the farmer than agriculture of any kind elsewhere. At a meeting of the New England Cotton Manufacturers' Association last month a Southern cotton planter predicted that if the requisite additional labor supply shall be introduced, the cotton crop will be doubled inside of 20 years.

This is not a fanciful outlook; there is no exaggeration about it. Not merely is there a vast body of additional land available for cotton cultivation, but the methods of cultivation also are susceptible of improvements which will largely increase the production of the land already tilled. The industry needs reorganization after the agricultural system pursued on the vast grain-raising farms of the West. In a discussion of the subject several months ago a Louisiana planter spoke of the slight changes in the methods of cotton cultivation which had been made in half a century, and pointed out the profit which would accrue from a more scientific system.

The Southern cotton associations are undoubtedly right in contending that the South is capable of producing all the cotton needed by the world. It has only begun to demonstrate its possibilities in that direction.

#### Wants Practical Laundry Manager.

Arrangements are being made at West Point, Miss., for the establishment of a complete modern steam laundry, and it is desired to interest an experienced man, who is prepared to become financially interested in and manage the enterprise. Full particulars can be obtained by addressing the Board of Trade, H. S. Dodenhoff, secretary.



## Reasons for New England's Industrial Growth.

[Special Correspondence Manufacturers' Record.]

Boston, Mass., October 17.

What does New England's marvelous development along industrial lines mean to the South in the way of incentive and example? How may her beginnings and present pre-eminence in many lines of manufacture spur on the South to greater efforts in an industrial way than have yet been witnessed there? What is there in the history of industrial New England that may be carefully noted by the South and applied to her own present-day activities with immense advantage?

It is to provide, in some measure at least, an answer to these most interesting queries that I have been assigned to a trip through New England in order that I may obtain a near and intimate view of the conditions of today and gather testimony from the lips of those who have grown grizzled in a lifetime of successful endeavor. It is expected that much of value will be secured, for while success, no more than oratory, can be "taught," yet there is always inspiration in hearing how from small beginnings a fellow-human has worked out a splendid achievement, and especially is there room for helpful suggestion and moving incentive to Southern men, with their vast opulence of natural resources, when we examine into what has been so largely and so marvelously well done in a land absolutely barren of fuel and raw materials. It would seem to be a case of "clear grit" triumphing over all obstacles, for outside of timber there never have been any raw materials here worth speaking of commercially, and yet New England is now and always has been away ahead of all the rest of the country in textile industries, in the making of machinery for all kinds of textile manufactures, and in the production of every kind of fine tool and delicate instrument.

These six States forming New England contain 66,465 square miles, or only 2.2 per cent. of the United States proper, and they do not raise enough food to supply their own population. The soil of New England is proverbially barren, and yet in the face of hard conditions and the development of the more fertile fields of the West and South, and the upbuilding of great centers of population and manufacture elsewhere, the manufactured product of New England has grown from a value of less than \$300,000,000 in 1850 to more than \$2,000,000,000 a year today.

Nothing but the enterprise, ingenuity and ceaseless activity of her people can account for this steady and continuous advance. Conditions are constantly changing, for since the earlier days the industries of New England have undergone a striking evolution, involving the gradual shifting of the manufacture of the heavier iron and steel products to points nearer the raw materials and fuel supplies. But all the while the New England States have clung tenaciously and successfully to the manufactures which originally gave them their chief prominence. Thus, outside of cotton goods, hats, shoes, jewelry and many minor articles, in which she leads, New England makes the greater part of the spindles and looms used in the cotton manufacture of the country, and almost as great a proportion of the machinery for wool manufacture, and her pre-eminence extends to many other branches of machinery.

As nothing ever is built up by chance, and it is impossible to wholly extemporize success, there must be substantial reasons for the position that has been taken and held by these men of New England. Doubtless the necessities of their surroundings have tended toward a sharpening of their wits, and a seacoast abounding

in fine harbors has afforded unexcelled opportunities for traffic with neighbors and with the world. In early days the whaling trade was a source of great profit to New England, and New England ships went round the world. New England sailors charted more seas and islands than ever did the geographers, and New England merchants trafficked with the merchants of every clime. And local capital is now and ever has been an important factor in the development of industrial enterprises. But the beginnings of industrial New England have no more mystery of detail, it seems, than that some enterprising mechanic dropped down somewhere and "got busy."

Thus Lynn owes its pre-eminence as a shoe-factory town to the early advent of a Welsh shoemaker who was particularly good in his line. His fame spread throughout the colonies, and customers came from all around. His business grew, he waxed rich, and Lynn shoes becoming a trademark, others went into the business there. From this small beginning in early colonial days the shoe business of Massachusetts has grown until the three cities of Lynn, Brockton and Haverhill make one-fifth of all the shoes turned out in the United States, the aggregate value being far larger than the product of the cotton manufactures of the State.

Danbury, Conn., the great hatmaking center, goes back likewise to the early settlement there of a single skilled hatter, and the list of such beginnings is susceptible of almost indefinite extension. It is the custom of mankind to follow a leader. One success suggests another, and no habit seems to be more firmly fixed than that of industrial imitation. Local capital is more easily secured for something which has been successfully established; there is a local supply of skilled labor available, and so the industry goes on building up, one success breeding another.

Although there were no peculiar local conditions favoring Lynn as a shoe town, for instance, or Danbury as a hat town, New England did have in those days some advantages by reason of population. Of the thin fringe of settlers along the coast in colonial days she had a large share, and as profitable agricultural operations were not possible here as they were in the colonies to the south, her people were driven to barter and trade and to manufacture. Incidentally, it is interesting to note that the center of manufacturing has ever kept close touch with the center of population, and both crossed the Allegheny mountains in their westward march not very far apart, which relationship they still maintain, the center of population being south of Indianapolis, while the center of manufacturing is near Springfield, Ohio.

While not every early settler of New England could have been a mechanical genius, it is without doubt that a prevailing proportion of them were "handy with their hands." Large plantations and an easy life were impossible to them, and doubtless, from necessity as well as previous training, they were of a mechanical turn. Particularly was this true of Connecticut, where inventive genius was early displayed, and where to this day a patent is issued every year to one out of every thousand of its inhabitants. Firearms, clocks, rubber goods, sewing machines—these are some of the articles, or latter-day forms of articles, for which the world is indebted to the ingenuity of Connecticut Yankees.

Massachusetts gave early stimulus to her mechanics and industries by direct action. As early as 1767 a mass-meeting

was held at Faneuil Hall and a resolution adopted against the purchase abroad of such wearing apparel and materials as could be made here, and at the same time steps were taken looking to the organization of associations for the manufacture of cloth and other materials and articles for wear.

In early days, and, in fact, up to the war of 1812, the factory system had gained practically no foothold in the United States, although in England the industrial revolution which has since occurred, through the invention of the steam engine and through the basic inventions of automatic machinery, had developed rapidly during the last quarter of the eighteenth century, particularly in the textile industries. In this country, however, everything was done in the shop and in the household, and it is interesting to note that in 1810, when the first census was taken, the States of Virginia, North Carolina, South Carolina, Georgia, Kentucky, Tennessee, Mississippi and Louisiana reported nearly \$11,000,000 of the \$26,000,000 worth of cotton and flax manufactures in the United States, while all New England reported less than \$7,000,000.

With the embargo and the war of 1812, the factory system, where large numbers of men and women worked in a factory for stipulated wages, was first introduced into New England; but although a number of corporations were organized to conduct operations on a large scale, it seems from the very interesting census reports of 1900, chapter on manufactures, that till 1850 or later the bulk of general manufacturing in the United States was still carried on in the shop or household.

New England, however, had early taken advantage of new methods and systems. In 1814 the power loom, which revolutionized the cotton industry, was introduced from England by Francis C. Lowell of Boston, who first put it into operation at Waltham. Later, in 1823, the city of Lowell was started, and has been a mill city from the beginning. The Middlesex Mills were started there in 1830 with a capital of \$500,000, which was soon increased to \$1,000,000; the Lowell Carpet Mills were organized in 1828, and the Merrimac, Hamilton and other large cotton corporations were organized before 1830. The city of Lawrence was founded in 1845, starting with the Bay State Mills, a woolen-manufacturing corporation with \$2,000,000 capital, which produced, according to the census of 1860, 11,000,000 yards of dress goods. The number of cotton spindles in operation in Massachusetts was in round numbers 340,000 in 1830, 624,000 in 1840, 1,288,000 in 1850 and 1,688,500 in 1860, which gives indication of the rapid development that early occurred in cotton manufacturing in New England. Wonderfully stimulated in all lines by the war of 1861-65, the value of all New England's manufactures increased during the decade 1860-70 from \$468,599,287 to \$1,009,116,772, or 115.3 per cent. That the increase still goes on in important though somewhat diminished form is shown by the census returns of 1900, which give a total of manufactured products for New England of \$1,875,792,081, an increase in the past decade of over 25 per cent. It is entirely proper, in the interest of truth and in recognition of what the South has done, to here note that the value of the entire manufactured products of the Southern States as reported by the census of 1900 was \$1,184,398,684, not including Maryland and the District of Columbia, which was an increase of 67.6 per cent. over 1890, and more than \$900,000,000 greater than the value of her products as reported by the census of 1870.

There is to be said in this connection, however, lest the showing of the South be deemed too favorable to merit a spur to

greater activity, that while the value of New England's manufactured product was \$691,393,397 more than that of the South, the value of the raw materials was only \$328,472,326 greater than that of the materials the South used. New England had \$640,291,869 more capital than the Southern manufacturing concerns employed, and the wage-workers numbered 291,476 more than those of the South, while the number of establishments in New England was 26,315 less than those of the Southern States.

The value of these figures is the incentive they contain for manufacturing a finer product. It is the inevitable incident to pioneering that only the elemental features of manufacturing may obtain, and even to this day much of the industrial activity in the South is in the lines of preparing raw materials for refining processes elsewhere. New England has not gone the whole length in this respect, for there is a large gap to fill up before she reaches Europe in the manufacture of the finer and costlier products and wares. But it is the manifest destiny of New England to reach that goal, to make her products finer and better year by year, and to show an ever-increasing discrepancy between the raw-material account and the price of sale—to put more money into the labor account, in other words. That the tendency is in this direction many indications show, not the least important of which is the disposition of manufacturers themselves to largely aid in the establishment at manufacturing centers of schools of industrial art, where special attention is paid to the application of art to manufactures, and by the founding of textile schools, where young men and women are taught the business of manufacturing from the scientific and artistic point of view. Nothing, I believe, that the Manufacturers' Record is doing is likely to be of more widespread and enduring benefit to the South than the effort to arouse an interest in technical education and textile schools. For many years to come it is unlikely that the South can do more than go forward where New England has blazed the way, but that may well be esteemed by her an ambition of a lofty sort, for when she has reached the point New England occupies today in variety and refinement of industrial product the value of her manufactures would be not \$2,000,000,000 a year, but many times that sum, and she would be the richest and most prosperous section the world has ever known.

ALBERT PHENIX.

### TO DEVELOP COAL AND IRON.

Corporation Formed With Capital of \$500,000 to Operate in Tennessee.

Chattanooga and Buffalo capitalists are now forming plans for the extensive development of valuable coal and iron lands in Tennessee. They have incorporated the Cumberland Plateau Corporation, with a capital stock of \$500,000, and are now investigating the various properties on which they have options. These lands are in Cumberland, Morgan and White counties, within a radius of 100 miles of the city of Chattanooga, there being about 20,000 acres to be utilized. It is understood that coal mines will be opened, iron will be taken out, and eventually an iron furnace will be built to work up the ores into merchantable pig-iron. The incorporators of the company are Messrs. Mark Packard of Buffalo, N. Y.; T. R. Preston, W. D. Carswell, Samuel Bosworth Smith and Ross S. Faxon of Chattanooga, Tenn. Mr. Packard is already largely interested in Southern development, more especially in West Virginia coal mines, and the Chattanooga parties are well-known capitalists and industrial operators of that city.

## PROGRESS IN REBUILDING BALTIMORE—IV.

By ALBERT PHENIS.

[Written for the Manufacturers' Record.]

Looking over that part of Baltimore's burnt district which was its financial center, the impressive fact that its banks and

total surplus and profits are \$23,825,065, an increase of \$16,261,279, or 215 per cent. The total deposits are \$92,695,486,

of \$27,966,789, or more than 66.7 per cent.

It is also important to note that shortly before the fire the Comptroller of the Currency called for a statement of the condition of the national banks on January 22, and they then showed total resources of \$81,159,692. On September 6 this same class of banks showed total re-

With these evidences of uninterrupted progress before the community, it is safe to predict that Baltimore will continue in the same path of financial growth which she has so successfully pursued during the last 10 or 12 years—years which have witnessed marvellous gains in every way in the Southern metropolis.

One very notable feature of the plans for rebuilding the burnt district is the fact that almost without exception the new banking-houses will be used solely as homes for the institutions. Outside of three trust companies, with their skyscraper structures, which are being restored to their former aspect, there was, before the fire, a growing tendency among the financial houses of Baltimore to adopt the lower style of building, from one to three stories, and to limit its uses to the bank itself. In the reconstruction of the 20 financial buildings which were either wholly destroyed or badly damaged by the fire, one and two-story structures will be the rule. This, with the recently-constructed buildings which were outside of the fire district, will give to Baltimore's financial institutions a distinctive uniformity which will be unique among the cities of America. In no city will there be a greater number of handsome, modern banking-houses devoted exclusively to banking purposes.

While there has been small haste in the construction of the financial houses, it being felt that so long as conditions in the burnt district remained in a semi-



MERCHANTS' NATIONAL BANK.

trust companies have not lost, but instead have greatly gained since the fire, appears all the more surprising. With the one exception of the Safe Deposit Co.'s building, South street was annihilated; placed hors de combat for many months, so far as its availability for business purposes was concerned, and all around it, north, south, east and west, lay the ruins of warehouses and offices formerly occupied by those who were customers of the banking institutions in that region, all swept away in the disaster. Yet the recent statements of the national banks, State banks and trust companies, published at the time of the call of the Comptroller of the Currency on September 6, show, as compared with the similar statements of September 9 of last year, an increase of more than 34.8 per cent. in their deposits, the total of which is now \$92,695,486, and the increase \$23,975,646.

It is true that immediately after the fire serious apprehension was felt concerning its effect upon the many banks and trust companies whose homes had been destroyed and whose customers had lost their stocks and establishments, but it was not long before everyone realized the unshaken existence of their strength and stability which have for years been characteristic of Baltimore's money center. This was the most hopeful sign amid the ruin and consternation which for a time prevailed, but the courage and cheerfulness following it rapidly made their influence felt throughout the entire community, and preparations for the rebuilding of the devastated territory were speedily in full swing.

Baltimore's total banking strength now amounts to more than \$213,000,000, the actual total of capital, surplus and deposits, including the savings banks deposits, being \$213,352,737. As compared with 1893, 11 years ago, this is an increase of \$114,784,551, or more than 116 per cent.

The following details, showing the progress of banking in Baltimore, afford further insight into this interesting subject. The total banking capital is now \$26,987,775, an increase since 1893, with which succeeding comparisons are made, of \$9,669,463, or over 55.8 per cent. The

an increase of \$60,887,020, or over 191 per cent. The total of capital, surplus and deposits is \$143,508,326, an increase of \$86,817,762, or over 153 per cent. The total of capital and surplus only is \$50,812,840, an increase of \$25,930,742, or over 104 per cent. The total of savings banks deposits is \$69,844,411, an increase

sources of \$92,687,945, an increase of \$11,528,253. While this statement is interesting, it is not, however, as important as that given before, because the first permits a comparison with the same month in two years, when the movement of business is presumably influenced by similar conditions.

chaotic shape there was nothing to be gained by rushing construction—that until the streets were more passable customers would be better pleased to stay out of the district—yet plans have been drawn for practically all of the new buildings, and work on many of them is well under way. It is roughly estimated that between



HOPKINS PLACE SAVINGS BANK.



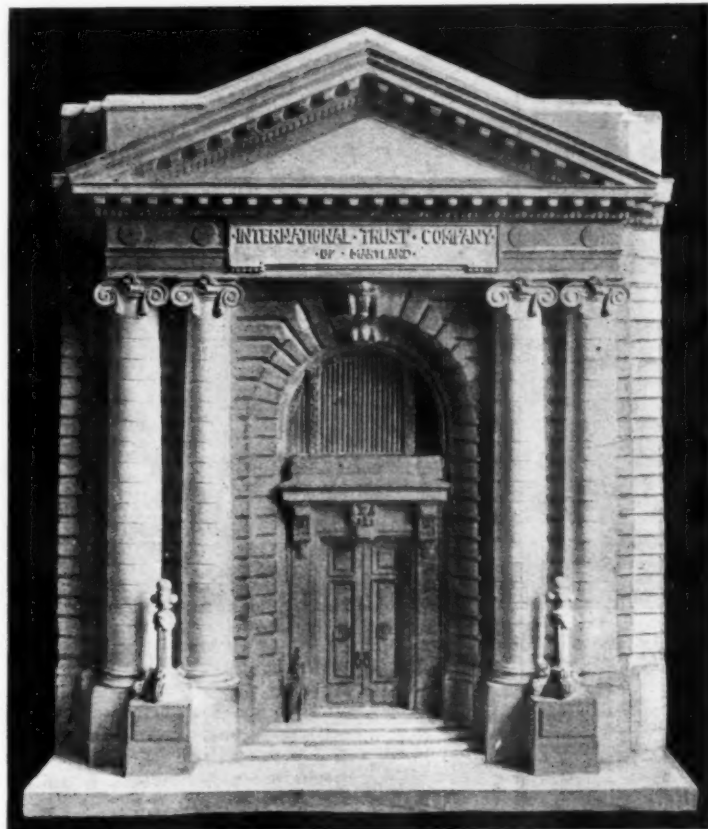
\$2,500,000 and \$3,000,000 will be spent on new buildings and in repairs to the financial institutions within the burnt district, and it is expected that most of the work will be completed before the end of

structure of the new Stock Exchange, one and two-story buildings will almost entirely prevail.

The first financial building to be newly constructed in the district is the very

was commenced, and it is now nearing completion. It occupies a lot 65x165 feet in size, has an exterior of colonial brick and buff terra-cotta, and is being built by D. W. & G. H. Thomas, from plans by E. H. Glidden, at an estimated cost of \$100,000.

for the new building of the Savings Bank of Baltimore, which, though a one-story structure, will be the largest bank building in Baltimore. It will occupy a lot 96.6x147 feet, located at the corner of Charles and Baltimore streets. Not all the details have been completed, and the



INTERNATIONAL TRUST CO.

next spring. The Union Trust Co.'s skyscraper is in the most advanced stage of completion, and is already taking tenants. The Continental Trust Co.'s building is being rapidly repaired at a cost of about

handsome five-story home of the Baltimore Stock Exchange on German street, near South. It is from plans by Howell & Stokes of New York, and is being built by A. R. Whitney & Co., also of New



BALTIMORE STOCK EXCHANGE.

\$700,000, and is expected to be ready for occupancy by the end of the year. The Maryland Trust Co. building is under contract to be completed by January 15. Outside of these buildings and the five-story

York, at a cost of about \$150,000.

The only four-story bank in the district will be that of the National Marine Bank, at Gay and Water streets. It was the first new banking building on which work

exclusive use of the bank. Parker & Thomas have drawn the plans for the change, and the work is being done by the Wells Bros. Company of Philadelphia. Parker & Thomas have also drawn plans

Waters is putting in an entire new white-marble front and making such other repairs as are required. The work here will result in a restoration of the building front to the same



NATIONAL UNION BANK.

One of the conspicuous examples of the tendency to restricted size in buildings is that of the Merchants' National Bank, whose seven-story building, left standing at South and Water streets, and only partially damaged by the fire, is to be cut down to a two-story structure, for the

contract has not yet been let, but it is likely that the building, which will be a very handsome one, will cost in the neighborhood of \$200,000. The same architects are supervising the restoration of the International Trust Co.'s building at 23-27 East Baltimore street, where Contractor John



NATIONAL MARINE BANK.

striking appearance it had before the fire.

The First National Bank will construct a one-story building running through from the old location at 17 South Holliday street, with an entrance on each street. This will give a frontage of 37.3 feet by a depth of 143. Plans are being prepared by T. Henry Randall of New York, but no contract for the work has yet been let.

The National Bank of Baltimore, which is the oldest institution in the city, with a charter going back to 1795, will erect a one-story building on its old site at Baltimore and St. Paul streets, with a front on each street, according to plans by Baldwin & Pennington. As details have not yet been completed, no contract has been let. Baldwin & Pennington have the plans for a number of the other banking buildings, both new structures and those which are being repaired.

The National Bank of Commerce, 26 South street, and the National Union Bank, 3 East Fayette street, were both one-story buildings of modern construction, and are now nearly restored. The Hopkins Place Savings Bank is being enlarged from its former size, although the front wall is generally retained. Henry Smith & Sons have the contract for the reconstruction, which is to cost \$50,000. Baldwin & Pennington are likewise making the plans for the German Bank, which



NATIONAL MECHANICS' BANK.



MARYLAND CASUALTY CO.

is to have a two-story structure at the northwest corner of Baltimore and Holliday streets on a lot 36x100 feet. No contract has been let as yet. The same conditions pertain to the Farmers and Merchants' National Bank, whose new one-story building will occupy the old site at the corner of South and Lombard streets.

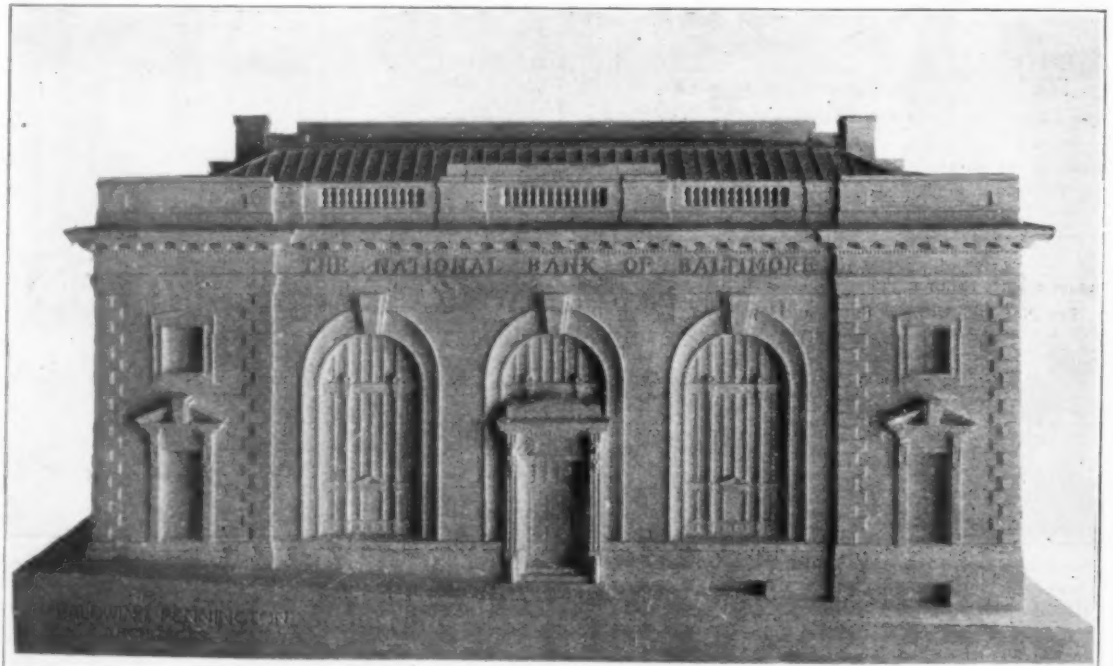
The National Exchange Bank building, on the old site at Hopkins Place and German street, is to be one story and basement, on lot 86 feet front by 120 feet deep, is to have an exterior of brownstone and terra-cotta, and will cost \$125,000. Taylor & Knowles of New York are the architects and James Stewart & Co. are the contractors. Taylor & Knowles also drew the plans for the imposing National Mechanics' Bank, South and German streets. It is to be of white marble with granite base, one story and basement, on lot 48x100 feet, and will cost \$150,000. Henry Smith & Sons are the contractors.

The Maryland Savings Bank is building on its old site, at Baltimore and Holliday streets, a two-story structure 36.6x77.3 feet, after plans by Mottu & White. Thos. L. Jones & Son have the contract at a stated price of \$50,000.

The Mercantile Trust & Deposit Co.,

which fared so fortunately that the building was reopened for business a few days after the fire, is taking advantage of this occasion to have the interior remodeled at a cost of \$50,000. J. E. Sperry is the architect and John Waters is doing the work.

The Maryland Casualty Co. is constructing a three-story building on the corner of Baltimore and North streets, running through to Fayette, after plans by Parker & Thomas; Murphy Construction Co., New York, contractors. There is a frontage of 200 feet on North street and 39 feet 3 inches on Baltimore and Fayette streets. The material on the front will be granite, terra-cotta and light gray brick, and the architects' design indicates a handsome structure. It had been planned to construct a 14-story building on this corner, but after a prolonged and thorough discussion of the matter the board finally decided on a building limited to little more than the needs of the Casualty Company. There will be a banking room on the lower floor, where the Third National Bank will make its home. Some of the offices on the Fayette-street end of



NATIONAL BANK OF BALTIMORE.



the building will also be let to tenants, but the second and third stories of the building will be devoted entirely to the use of the Casualty Company, as will also be the large basement. It is expected that the

recent construction outside of the fire district.

Many interesting historical facts might be mentioned concerning the older financial institutions of Baltimore, and a whole

In the first place, it is one of the oldest institutions of its kind in the country, it having originally been a branch of the Second United States Bank, which was chartered by Congress in 1816. When

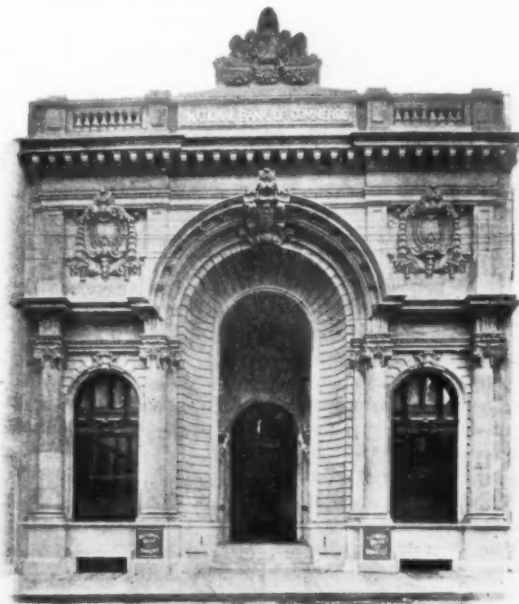
go out of existence, the Merchants' Bank of Baltimore incorporated in 1835 and began business in 1836 with the assets of the Baltimore branch of the United States Bank, which it had bought and



NATIONAL HOWARD BANK.



PROVIDENT SAVINGS BANK.



NATIONAL BANK OF COMMERCE.



CALVERT BANK.

building will be ready for occupancy by the 1st of March, 1905.

The way the Safe Deposit & Trust Co. at 9 to 13 South street came through the fire practically unscathed, while buildings everywhere around it were totally destroyed, was one of the striking illustrations of the advantages of low buildings of fireproof construction. Baldwin & Pennington were the architects of the building and John E. Marshall & Sons the contractors, and they are making the minor repairs required.

The National Howard Bank, at Howard and Fayette, a one-story building of glazed terra-cotta exterior, built by John Waters for \$65,000 after plans by J. E. Sperry; the Calvert Bank, at Howard and Saratoga, a three-story building of Pompeian brick and terra-cotta exterior, built by the Noel Construction Co. after plans by Sperry, at a cost of \$35,000, and the Provident Savings Bank, a massive one-story structure of Connecticut granite, at Howard and Saratoga streets, built at a cost of \$200,000 by Norcross Bros. & Co. after plans by York & Sawyer, are conspicuous examples of the prevailing tendencies in the architecture of Baltimore banks, all of these having been of



NATIONAL EXCHANGE BANK.

chapter or more might be devoted to that feature. For example, all kinds of interesting incidents and reminiscences cluster around the Merchants' National Bank.

President Jackson waged his famous fight against the United States Bank, and by his veto of the bill to recharter made it necessary for the United States Bank to

which including the building erected and occupied by it on the corner of Gay and Second streets. The original capital of the Merchants' Bank was \$2,000,000, all

of which was subscribed for several times over immediately upon being offered to the public.

Pursuant to the national banking act passed by Congress in 1864, the Merchants' Bank became the Merchants' National Bank in 1865, and its second charter for a 20-year term continues until June 7, 1905. In a very interesting and rare publication issued with the compliments of the Merchants' National Bank in 1891 there appears the extraordinary statement that during the long life of this institution there has not been a dishonest employe or defalcation in the history of the bank. The Merchants' has always enjoyed the confidence of the public, together with a large share of its patronage, and has always prospered. In all its history its capital has never been impaired nor has it yet failed to pay to its stockholders regular semiannually dividends, at no time less than 6 per cent. per annum, and for the past 40 years an average of something like 9 per cent. per annum has been maintained. During the 60 years of its existence there have been but six presidents of the bank. The famous John Hopkins held the presidency for 20 years, from 1853 to 1873, and the present president, Douglas H. Thomas, has occupied the place for more than 18 years.

An interesting incident is revealed in the book on the bank which has been mentioned, in the way of a picture of an old Russian money chest which used to be the strong-box of the institution. A similar treasured vault is in the possession of the Museum in Boston, and there it is claimed to have an age of something like 300 years. Mr. Thomas, who had acquired the Merchants' money chest after it had long been in disuse, is not disposed to credit it with any such extreme age, but he, nevertheless, values the chest as an interesting relic of ancient banking methods, and it occupies a post of honor in his family residence.

#### FARMERS WELCOME SPINNERS.

##### Cotton-Growers Hospitable Toward Lancashire Manufacturers.

Mr. Harvie Jordan of Monticello, Ga., president of the Southern Cotton-Growers' Association, has mailed to the Federation of Master Cotton-Spinners' Associations of Manchester, England, a letter giving his personal endorsement of the invitation from the association to the Federation to visit the South. The letter is as follows:

"At a recent convention of the Southern Cotton-Growers' Association, held at St. Louis, Mo., a resolution was unanimously passed extending an invitation to your association to visit the United States in the near future, and to especially visit the cotton-growing States.

"Every cotton-growing State in this country was well represented in the convention by leading planters engaged in cotton culture, which makes the invitation unanimous throughout the States comprising our cotton belt in the United States. As the official head of the Southern Cotton-Growers' Association, I desire to personally endorse the resolution passed on September 26 at St. Louis, and to extend to the distinguished members of your association a hearty and most cordial invitation to visit our section of the United States, meet our people and become better acquainted with the existing conditions and future possibilities of the country which is now providing your mills with a large proportion of their raw material. I believe that the cultivation of a closer relationship and acquaintance between the cotton producers and the spinners of the world will more quickly tend to solve many of the perplexing problems which are at present and have been in the past perplexing to both the producers and the spinners. If your association should accept

the invitations now being extended by the manufacturers, producers and business men generally of the United States, I shall hope to have the pleasure of meeting many of you personally during your visit to the Southern States, and to furnish you with as full and complete opportunities as possible relative to the objects and purposes of your visit."

Mr. Tom Richardson, manager Portland (Ore.) Commercial Club, writes to the Manufacturers' Record: "I have been watching with a great deal of interest the Manufacturers' Record's endeavor to interest the cotton manufacturers of Europe in a trip to the South. Of course, I had a double interest in it on account of the participation of my friend, Mr. S. F. B. Morse. If I was down in New Orleans I can assure you that I would have a hand in this. It is a movement which means much to the South, for it is going to hasten the day when the South will dominate in every and all kinds of cotton manufacturing, and further than that, for products of every description which even contain a partial percentage of cotton. As usual, you are leading the van, and I am just as glad as though I lived in the South to know that her interests are being taken care of properly."

Marshall Stevens, one of the founders of the Manchester Ship Canal, and the first manager of that waterway, is an authority on cotton transportation there. He was in New York last week, and being asked by the Journal of Commerce what might be accomplished by the proposed international conference of spinners and cotton-growers, he said that he had no doubt that a substantial delegation will accept the invitation to come to this country as soon as it has been formally presented.

The Southeastern Railway Land and Industrial Agents' Association at its St. Louis meeting adopted unanimously the following resolution:

"Resolved, That this association views with favor the efforts now being made to hold an international meeting of cotton spinners in the South, and trusts such action may be taken as will allow the cotton spinners of the world opportunity to view personally our unparalleled resources and advantages in this line of industry."

#### COTTON-CROP ESTIMATE.

##### Reports of State Agricultural Commissioners on Present Conditions.

At their annual convention at Baton Rouge, La., on Saturday the commissioners of agriculture of the Southern States made an estimate of this year's cotton crop, as follows:

Alabama 1,075,000 bales; Arkansas 725,000, Florida 60,000, Georgia 1,350,000, Kansas and Kentucky 1000, Louisiana 850,000, Mississippi 1,250,000, Missouri 35,000, North Carolina 560,000, South Carolina 800,000, Tennessee 250,000, Texas, Oklahoma and Indian Territory 3,200,000, Virginia 15,000; total, 10,171,000 bales.

In response to telegraphic requests from the Manufacturers' Record, the following telegrams, giving something of the detailed condition of the crop in several States, have been received from their respective commissioners of agriculture:

B. E. McLin, Tallahassee, Fla.: The cotton crop of this State is almost all gathered, and by the 25th of this month almost all picking will have been completed. The crop will not exceed last year's, and will probably fall a little under it. The crop has opened more rapidly than for years, owing to the unprecedentedly favorable season, and picking has been more rapidly done because the whole crop opened principally at the same time. When prices were about 10 cents

the crop was marketed quite freely, though not recklessly. Since the depression in prices by the speculators to below 10 cents no cotton is being marketed except from necessity. It will be held for 10 cents and up. There is a feeling among farmers that is growing that the general crop is nothing like as large as had been so freely predicted, and that future prices should be better on this ground. Large numbers of farmers are holding and will so continue for 10 cents up to 12. From the best information we can obtain from all sections of the cotton-growing belt, we believe the crop will fall under 11,000,000 bales; in fact, we do not see how it is to exceed 10,750,000 bales. This opinion is based upon information which shows practically the same conditions to exist throughout the entire cotton belt as those above stated to exist in this State. Eleven cents should not be an unreasonable figure to expect for cotton before January next. The supply of labor is short, and but for the uninterrupted favorable weather for picking much of the crop would have been lost.

R. R. Poole, Montgomery, Ala.: Alabama will produce about 10 per cent. more cotton than last year, or about 1,100,000 bales. The Association of Commissioners of Agriculture of the Southern States estimates total crop at 10,171,000 ginned bales. All cotton is now open in the fields. There is no top crop. Labor is inadequate to pick crop, but weather is very favorable. Rain or wind storms would almost destroy remainder of crop, owing to the extreme dryness of the plant. Cotton has been marketed much more rapidly than during any previous season. Receipts in interior are beginning to decrease, owing to the fact that the crop all opened at one time and was rushed upon the market to receive benefit of good prices.

H. T. Bradford, Little Rock, Ark.: The cotton crop of Arkansas was damaged by overflow and drouth, and will be but little, if any, in excess of last year. My opinion is that the total Southern crop will not exceed 10,150,000 bales. The crop is being gathered and marketed as fast as can be done. More labor is needed.

J. G. Lee, Baton Rouge, La.: Acreage was increased this year. The crop is short, and the estimate for Louisiana is 800,000 bales. Cotton has opened and is being picked more rapidly than in former years. This accounts for heavy early receipts. Owing to sugar season and cotton season not having conflicted so far, the supply of labor has been fairly good. From now on labor will be scarce.

#### Texas-Louisiana Oil Fields.

[Special Cor. Manufacturers' Record.] Beaumont, Texas, October 16.

Production at Jennings, La., has been increased to between 37,000 and 40,000 barrels a day, being greater than the output of all the Southeast Texas pools combined. Large sales of oil have been made to the Southern Pacific Railroad. The Heywood Oil Co. has delivered 80,000 barrels to the Southern Pacific, loading it on tank cars through the Jennings Oil Co.-Heywood Bros. pipe line at 48 cents a barrel.

Considerably more than 1,000,000 barrels of oil has been put into storage at Jennings, and one firm has 125 teams at work building earthen storage reservoirs.

The rate of 10 cents a barrel on train-load lots of oil made by the Southern Pacific between Jennings and Beaumont has removed the possibility of the construction of a pipe line to the Texas oil center.

Production in the Texas fields is down to about 33,000 barrels a day, and the movement has been from 45,000 to 47,000 barrels a day. Prices have advanced on these conditions at Beaumont and Sour

Lake to the extent of a few cents, but the 10-cent rate of Jennings oil will keep the market from going much higher. Beaumont oil is worth 40 and 41 cents, and Sour Lake oil sells at 35 to 37. Batson is quoted at 33 cents and Saratoga at 35.

Conditions are improving at Matagorda, where the production has reached 1300 barrels a day or more.

HOLLAND S. REAVIS.

#### KENTUCKY-TENNESSEE OIL.

##### A \$3,000,000 Concern to Take Part in Exploiting the Field.

[Special Cor. Manufacturers' Record.] Barboursville, Ky., October 16.

Drilling in all the divisions of the Kentucky and Tennessee oil fields is on the increase, and the prospects for a large amount of development during the coming winter are good. Drilling in the lower developments, along the Kentucky-Tennessee line, is greatly widening out. On the Kentucky side the Wayne county division has turned out 16 excellent producers this month, and takes the lead in production. A few of the Wayne county concerns have made back all the money they have expended, and are paying increasing dividends.

Down near the Tennessee line in Wayne county a wildcat well came in the earlier part of the week with a good flow. That region is gradually being developed in connection with the region across the line in Tennessee, and it is believed will prove prolific.

During the first two weeks in October the Wayne county division has produced an average of 15,000 barrels per week. This is not quite as good a showing as that of the same period in September, being accounted for by the fact that many of the wells have been shut down by a scarcity of water.

Second in interest to the Wayne county division is that of Cumberland county. Last week the Standard completed the enlargement of its pumping station in that field, and is in position to handle all the oil the field may produce. During the past few weeks, since the field has received pipe-line connection, some big strikes have been made. On the Graves farm a well good for 150 barrels was drilled in, and last week a 100-barreler came in. Six strikes have been made this month, the best of which does 75 barrels. The Cumberland county division is being developed principally by the Standard Oil Co., although Eastern people are doing a great deal of drilling.

Last week a Chicago company landed an excellent producer in the Knox county division, in the southeastern part of the State, and it is leading to a great deal of new work in that section. The new well is in the Richland division of Knox county, in a region of old producers.

The upper fields are now commanding more attention than usual, and attention has been directed to several of the wildcat fields of that region by the formation of a \$3,000,000 company to take up the work of development. The new concern is known as the Kentucky Union Oil Co., and it will prospect in a large territory. New York parties are interested in this company.

In Estill and Wolfe counties a number of wells are now going down. The completions in the former division average three a week, but in the latter division work is not progressing as rapidly. In Estill oil is found at 125 feet, but the Wolfe county pay sand is found below 1000 feet. In the Bath-Rowan field little new work is under way, but the field continues to produce between 4000 and 5000 barrels of oil weekly. This grade of oil commands but 60 cents per barrel.

In the Tennessee field a big strike was made early in the month in Fentress



county. It is the first strike made in that division for several weeks, and is the first of a number of wells commenced some time ago to be drilled to the sand. It is producing 50 to 75 barrels daily.

Kentucky-Tennessee oil, lighter grade, now commands \$1.01 per barrel, and the Ragland, or heavy grade, is quoted at 60 cents per barrel. Advances are looked for before the end of the month.

W. S. HUDSON.

### HICKORY'S NEW INDUSTRIES.

#### Evidences of Steady Growth in Recent Years.

[Special Cor. Manufacturers' Record.]  
The Hickory Board of Trade,

Hickory, N. C., October 18.

There has been an unexampled industrial activity in this city during the past year or two. Although there has been a steady growth for several years past, 1902, 1903 and 1904 have evidenced more by far than any of their predecessors. Among the recent industries are the Ivy Cotton Mills, capitalized at \$165,000, and claimed to be one of the most modern cotton mills in existence, and two furniture factories—the Hickory Furniture Co., \$35,000, and the Martin Furniture Co., \$50,000, both well-equipped plants, with good buildings. The E. L. Shuford Manufacturing Co. (cotton mill) has doubled its plant, bringing it up to the \$300,000 class. Every industry of the city has increased its output and plant during the past year or two. The population of the town has increased from 2565 in 1900 to nearly 5000 this year, and with the close suburbs the population of the district is about 8000. The city this year completed a new graded school at cost of \$12,500. Over \$60,000 has been expended in the past two years for new churches. This in itself is a fair index to the prosperity of the city. A system of water-works and sewerage is now being put in, to be first-class and to cost about \$125,000. Concrete-cement sidewalks are being placed through the entire business district. Two new wholesale grocery houses have been established, and both are doing well. Seven new mercantile establishments have been opened during the past year, and one new private bank. The amount expended for new business buildings during the past year was \$110,000; for residences, etc., \$85,000. A foundry of considerable proportions costing \$35,000 is one of the recently-established industries. This institution furnishes, among other things, iron columns for new store buildings, which have heretofore been purchased elsewhere.

There are splendid openings here for furniture factories, wagon plants, wood-working establishments and an ice plant.

T. J. GREEN, Secretary.

### A \$500,000 Superphosphate Plant.

A large plant is to be established at Inglis, Fla., for the manufacture of superphosphate, the first unit to provide for the annual production of about 40,000 tons. The product is to grade from 14 per cent. to 18 per cent. available as may be required by the market. Additional plants will be erected later on as demands warrant. The plant will be built by the Barker Chemical Co., which has been incorporated, with a capital stock of \$500,000, by Messrs. John W. Auchincloss, Hugh D. Auchincloss and Stephen Barker of New York. The company can be addressed at Inglis or care Messrs. Auchincloss Bros., 22 William street, New York city. Contract for building the plant has been signed with Peter S. Gilchrist of Charlotte, N. C.

The new canning plant at Houston, Texas, is ready for operation and will first turn out canned syrup in small and large packages.

### IRON MARKET IMPROVING.

#### Special Telegrams About Iron-Trade Situation.

Throughout the iron circles of the country, and especially in the South, there are very marked evidences of a decided improvement in trade conditions. Prices have materially advanced, and sellers are reported as much less anxious to do business than buyers. All indications seem to point to our business conditions having turned the corner from depression to activity, and it looks now as though we were in it for another long upward movement in business activity.

The Birmingham correspondent of the Manufacturers' Record, under date of October 19, wires as follows:

"The iron market is very firm on the basis of \$11 for No. 2 foundry, with sellers very reluctant to meet that price. Sales are, therefore, small and orders at current quotations are turned down constantly. Sellers are confining business to meeting requirements of long-standing customers whose wants are not fully met. There are more orders declined than are accepted, and, as a rule, the general market is avoided. There has been some business concluded for the first quarter of next year on the basis of \$12 for No. 2 foundry, and at this price sellers are reluctant to meet demand. Most of the iron selling is on basis of \$11 for No. 2 foundry, with occasional sales at \$11.25 for delivery this year. No. 1 foundry has sold at \$11.50 and No. 3 foundry at \$10.50; No. 4 foundry and gray forge brought \$10. But for sellers' declination to accept orders the sales would have been large. The strike situation is growing more and more favorable to the operators, as miners are constantly returning in squads to work. Some furnaces that have been out of blast are preparing to go in again, and the prospect for increased production at an early date of iron is favorable."

Telegrams of inquiry from the Manufacturers' Record to iron interests brought the following telegraphic replies:

The Tennessee Coal, Iron & Railroad Co.:

"Replying to your telegram of even date, inquiries for pig-iron are increasing for both nearby and future delivery, and prices are higher and firm. Some sales have been made on a basis equivalent to \$12 Birmingham for No. 2 foundry. The outlook is encouraging."

Rogers, Brown & Co. of New York:

"The iron market continues active, with a tendency to stiffening prices. The basic market is less active on advanced quotations, but the general foundry trade is covering nearby requirements freely at prices 25 and 50 cents higher than two weeks ago. Southern furnaces have practically withdrawn from the market, and several Northern stacks are filled up to January 1 by the recent buying movement. Producers both North and South count on increased cost after the first of the year, and are discouraging any purchases except at material advances. The general feeling is one of conservatism, optimism and belief in a slow but sure improvement."

Matthew Addy & Co. of Cincinnati:

"There has been in the past week a very decided change not only in the sentiment in the pig-iron market, but in actual conditions as well. New business has been very heavy, and if there had been more iron free to sell transactions would have been on a considerably larger scale. There is an alarming scarcity of Southern iron, and practically all of the Birmingham furnaces are absolutely out of the market. The miners in Birmingham have been on a strike since July 1. Little by little the available stock of iron has been exhausted. One of the large com-

panies in Birmingham has announced that it intends to pile iron, anticipating in the not distant future considerably higher prices than prevail at the present time. The other furnaces are making very little iron because of the strike, and what iron they are making has already been sold; so that it is not likely that they will be active factors in the market for some time to come. Of course, the Northern furnaces are taking advantage of this situation, and they have been selling freely in markets which heretofore belonged exclusively to the South. For example, a great deal of Northern iron is today being put into Louisville, St. Louis and Cincinnati, districts where heretofore Southern iron has had an unquestioned monopoly. There has been such a rush of business to the Northern furnaces that they are all much firmer in their views of price than they were, and an advance of 50 cents during the week has easily sustained, with prospects of a further advance within a few days. It is very evident that consumption, while not increasing at a phenomenal rate, is, nevertheless, steadily growing, and the prospects for continued good iron business are exceedingly bright. All the changes in the situation have been on the right side."

A dispatch from a Virginia company:

"Our sales in the past two weeks have been heavier than for some months past and very satisfactory. We consider the situation very strong. Spot and future delivery iron in the central West has netted prices more than a dollar above last week's quotation, and we look for further advance. Inquiry comes from all points of the country, and buyers desire to cover six months ahead, indicating widespread revival of business and restored confidence. In common with the majority of Southern furnaces, we are practically out of the market this year, and are offering only limited tonnage for first quarter next year. Manufacturers' finished products are sold well ahead, assuring a steady market."

Mr. James M. Swank, general manager of the American Iron and Steel Association:

"The outlook for iron and steel is distinctly favorable. The country is buying more freely than six weeks ago. Prices of pig-iron have advanced this month 50 cents a ton."

Samuel Benner of Ohio, whose predictions for improved conditions were quoted last week, in the course of a letter under date of October 18 to the Manufacturers' Record says:

"In my predictions I have been guided by the cycle in iron, as explained in my book of prophecies. The ups and downs in trade follow the pig-iron cycle persistently. The coming four years after 1904 will be prosperous years for the iron trade. The price of iron will advance; also, the market for railroad stocks and industrial securities, with moderate reactions, will recover the many millions of dollars lost in the decline and the depression of the last few years."

### Repairing Its Furnaces.

[Special Cor. Manufacturers' Record.]

Middlesboro, Ky., October 18.

Indications point to an early resumption of activity in the iron business in this section and a consequent improvement in the coking business. The Virginia Iron, Coke & Coal Co., composed of Philadelphia capitalists, is now engaged in making extensive repairs on its furnaces in the Virginia fields, and it is given out that several furnaces will be blown in by this concern at an early date.

Extensive repairs are now under way on the Bristol furnaces on the Virginia-Tennessee line, and it is probable work

will commence at that point some time next year.

Other iron and steel concerns are preparing for greater activity, among them the Union Iron & Steel Co. Several of the coal and coke concerns along the Cumberland Valley division of the Louisville & Nashville Railroad are contemplating the erection of more coke ovens. The past few months have witnessed the opening up of a number of new coal mines in the Virginia region, and several important railroad projections are being considered.

W. S. HUDSON.

### Now His Favorite Paper.

Editor Manufacturers' Record:

After ordering the Manufacturers' Record I thought I had acted a little too hasty in the matter, but since I have received and read three copies I am only glad I did, for should I have taken the matter under consideration I might not have ordered it at all. The Manufacturers' Record is my favorite reading-matter now, and I hope to see it prosper and more copies sold through this part of the country.

I will endeavor to describe our village and surroundings to some extent to show some of the outcome of this part of the South. Winnsboro is a town of about 700. A new courthouse has just been completed at a cost of \$30,000. We have a high school with 140 children enrolled. We have three churches, the New Orleans & Northwestern Railroad, two cotton gins, one saw-mill, a brick-kiln, 17 stores, one bank and hotels. The lands about here are level, but all above overflow, and good farm land can be bought for \$5 per acre improved, while only eight or ten years ago it sold for \$1 to \$2 per acre. There is a plantation one-half mile from town that has been in litigation for seven or eight years and was appraised several years ago at \$4500. Now it has been reappraised at \$8700, and will be sold in about 20 days. In fact, this whole parish is improving fast, and land is going to be very high in a few years.

I wish to state also that there has been chartered a building and loan association, and we look for a general boom in the town next year. It can afford it, for it has the country to back it.

W. L. WHITNEY.

Winnsboro, La.

### The International Power Co.'s New Purchase.

The Boston News Bureau of October 18 says:

"Dispatches from Chicago state that the International Power Co. has just completed the purchase of the entire works and plant of the Cosmopolitan Condenser Co. of Chicago, and has also obtained the exclusive manufacturing contract for these condensers for the United States as well as Canada and all foreign countries. It is understood these condensers are practically indispensable to the turbine engine where water is scarce."

### Speed in Coaling Ships.

Mr. John B. Honor of New Orleans has invented a new system for coaling ships which, it is claimed, will reduce the time of coaling from days to hours and the cost from 40 cents per ton to six or eight cents. The invention involves a barge with a grabber to lift the coal from coal barges and land it in the dump, through which it is to be conveyed to a vessel for the coalyards and plantation. Worked out, the plan is expected to result in the establishment of large coaling stations at and near New Orleans.

The Mexican Railway and the Inter-oceanic Railway of Mexico are planning to use petroleum for fuel.

## COTTON MILL A PIONEER.

The Basis of Fifteen Years' Progress in Anderson.

[Special Cor. Manufacturers' Record.]  
Chamber of Commerce,  
Anderson, S. C., October 17.

The industrial growth and development in the South for the past 10 or 15 years has been marked in the Piedmont section of South Carolina. The city of Anderson has led in the progress of this Piedmont section. Anderson is an old county-seat town, and was for many years a sleepy country village. Its real growth began about 1889 with the building of the Anderson Cotton Mills. This mill began with a capital of \$75,000 and 5000 looms. It was signally successful from the start, and has been enlarged from time to time, and now has a plant of 70,000 spindles and 6000 looms and employs 1200 operatives. Its stock is selling at 125. The success of the Anderson Mills led to the establishment of other mills, and today Anderson has nine cotton-mill plants, having an aggregate of 256,000 spindles and 6000 looms. The Brogan Mills, one of the finest of its kind in the world, cost over \$1,000,000, manufactures outings, flannels, teazle downs, etc. The Gluck Mill, another fine plant, cost \$500,000, and manufactures the finer grades of lawns and cambrics, most of its product being given the mercerized effect. Anderson has two twine mills and one hosiery mill. The Orr Mills, at first capitalized at \$400,000, was doubled last summer, and now has 56,536 spindles and 1450 looms. The Cox Mills and the Riverside Mills, each with 12,500 spindles, are being doubled this summer.

Anderson is progressing along other lines. The Anderson Phosphate & Oil Co., with a capital of \$750,000, owns 11 cottonseed-oil mills in the Piedmont section of the State and operates a 40-ton fertilizer plant in the city of Anderson, together with a plant for the manufacture of roping, twine, etc., from the linters from the oil mills and from the waste from other mills. The People's Oil & Fertilizer Co. is completing a 30-ton cottonseed-oil mill, with a ginnery plant consisting of 16 70-saw gins, the largest ginnery east of the Mississippi river. The Blue Ridge Beverage & Extract Co. began business less than a year ago with a capital of \$10,000. Its business is the manufacture of products from the pindar or peanut. These include several carbonated drinks, a table delicacy called peanut butter, and a very high grade of toilet perfume. This is an entirely new industry in the South, or in the world, for that matter, but it has been very profitable, and the capital of the company is to be increased at once to \$50,000 and the output greatly enlarged. There is in Anderson one of the largest and most successful mattress and spring-bed factories in the South, an overalls factory, two suspender factories, shirt factory, handkerchief factory, foundry and machine works, novelty works, lumber mills, etc. The Anderson Water, Light & Power Co. owns a water-power at Portman Shoals, on Seneca river, 10 miles west of the city, developing 6000 horse-power. All this power is converted into electric power and sold to cotton mills and other industries in the city at prices averaging \$15 per horse-power per annum. Another company has been formed to develop another water-power at Hutton's Ford, on Tugaloo river, four miles further away, which will yield 7000 horse-power. All this power will be used in Anderson, and the greater part of it has already been contracted for. The Belton Power Co. is engaged in developing a 5000-horse-power water-power on Saluda river, on the eastern side of the county,

which will run mills at Belton and other towns in the county.

Anderson has water-works, sewerage system, electric lights on nearly all the streets, and an electric-car system is now being constructed. An interurban railway, to run from Anderson to Greenville, 35 miles distant, and connecting Anderson with the towns of Belton, Williams-ton, Pelzer and Piedmont, is projected. A company has been formed and all the surveys made, and it is confidently believed that the road will be under construction within a year. It will traverse one of the most populous sections of the South.

Anderson has a very fine system of graded schools, employing 32 teachers and having four modern school buildings, with an enrollment of 1900. Clemson, the agricultural and mechanical college of the State, is only 18 miles away, and several other denominational male and female colleges are in nearby towns.

The city is in the center of a very fine farming country, and the farmers are more progressive, probably, than in any other section of the South. The Woodburn and other stock farms in the county vie with those in Kentucky and Tennessee in the quality of their horses, cows, hogs, etc. One farmer has 500 acres of upland in cotton this year, from which he will make 500 bales, and will make 60 bales from one field of 20 acres. A small farmer living 18 miles from the city made \$1800 net from a one-horse farm last year. These are exceptional cases, of course, but as a rule the farmers of this section are progressive and prosperous, and this, as much as anything else, has contributed to the upbuilding of the city. The farmers own stock in the mills, banks and other enterprises, and there is a general and far-reaching spirit of friendliness and co-operation between city and country that is probably without a parallel anywhere.

The Anderson Chamber of Commerce and the Anderson County Farmers' Institute, the purposes of which organizations are indicated by their names, are working cordially together for the betterment of both city and county, and the result of their efforts are being shown daily. Letters of inquiry addressed to the secretary of either organization on matters pertaining to the manufacturing, commercial or agricultural advantages of the city or county will receive prompt reply.

A. M. CARPENTER, Secretary.

## TO USE LOW-GRADE PHOSPHATES.

Their Economic Transformation in Furnace Practice Suggested.

Editor Manufacturers' Record:

Some weeks since the Nashville American contained a brief account of an effort which would be made during the current month to manufacture at the Rockdale furnace, in Maury county, Tennessee, a considerable amount of ferro-phosphorus to be used by certain Northern basic-steel manufacturers.

There is no doubt ample demand and inducement to warrant this particular undertaking, but the literature on the subject does not hold out promise of large demand for such material, or that the experiments will result in a development of any considerable industry along these lines. There are, however, two points connected with such work which are worthy of the serious consideration of all those who are interested in the welfare of the South and the development to the best advantage of its peculiar natural resources.

The first question is whether there might not be developed an export trade in high-phosphorus iron. The extensive use in Germany of the basic Bessemer process, in which slag forms a valuable by-product, which was used last year to the extent of

\$2,000,000, makes it possible for them to use with advantage a high-phosphorus pig. Is it not also possible that the German steelmakers may use as a mixture, in order to control their iron and to secure a phosphorus contents of exactly the right percentage, large quantities of pig-iron containing a very much higher percentage of phosphorus than is ordinarily available? If this is true, and if they would pay a reasonable amount for each per cent. of phosphorus in excess of, say, 2 per cent., this could be added without difficulty and at a moderate expense by the use of low-grade phosphates, which are found in such quantity in Tennessee, and might be of special value to all of the furnaces located within a reasonable radius of those deposits.

There is no difficulty whatever in getting an iron with an increased per cent. of phosphorus by the addition of these phosphates, and up to 4 per cent. practically all of the phosphorus would pass into the iron. With increasing amounts an increasing proportion would go into the slag. It is probable that 10 or 12 per cent. would be the maximum which could be gotten in combination with the iron.

The second, and by far more interesting and valuable question which might be settled by such work, provided simultaneous investigations are made with reference to it, is whether it is not possible in a blast furnace to manufacture at a moderate expense from the low-grade phosphates of Tennessee a slag which would have essentially the composition and value of the slag obtained from the German basic Bessemer converter, and which, as I said above, reaches a market at present amounting to not less than \$2,000,000 a year?

It is still a question as to whether what are ordinarily known as insoluble phosphates may not be made available for plant use by sufficiently fine grinding (see Bulletin 68 of the Maryland Agricultural Experiment Station), but it would require a long fight in the face of very serious opposition to demonstrate this beyond question. The same fight was made against the basic slag, and both abroad and to the limited extent to which it is produced in this country it has won out. There is absolutely no question as to its availability and great value. There is no theoretical objection to the formation in a blast furnace, by means of a suitable combination of material, of slags which would have the same composition as these valuable basic Bessemer slags, several typical analyses of which I submit herewith, taken from Bulletin 213, United States Geological Survey:

Analyses of Basic Bessemer Slags.

	1	2	3	4	5	6
SiO <sub>2</sub> .....	7.38	7.5	5.8	5.76	5.10	2.49
Al <sub>2</sub> O <sub>3</sub> .....	2.57	2	1.5	1.43	4.01	...
FeO.....	8.54	4.1	15.42	2.07	...	8.19
P <sub>2</sub> O <sub>5</sub> .....	13.92	9.3	2.1	12.72	12	1.23
MnO.....	3.79	4	3.5	3.45	5.56	...
CaO.....	41.58	49.6	45.04	47.24	45.26	61.02
MgO.....	6.14	4.7	6.42	6.01	5.90	...
K <sub>2</sub> O, Na <sub>2</sub> O.....	...	...	...	...	.80	...
CaS.....	.54	...	...	.91	...	...
S.....	.5	.32	...	...	...	...
SO <sub>2</sub> .....	...	...	...	...	...	...
P <sub>2</sub> O.....	14.36	17.5	18.1	19.19	21.37	27.35
H <sub>2</sub> O.....	1.29	...	...	1.19	...	...

The amount of high-grade material in Tennessee available for use by the present methods is distinctly limited, though actually very large; but the amount of low-grade material, which has at present little or no commercial value, and which could be utilized by such a method, is enormous. If, therefore, it is possible, as I think will prove to be the case, to manufacture from such material in the blast furnace at a reasonable expense slags similar in composition and comparable in value to the basic Bessemer slags, the value to Tennessee, as the most prominent producer of such material, and to the agricultural interests of the entire country, can hardly be overestimated.

I trust very much that those who are

interested in this experiment and in these deposits which Tennessee possesses in such abundance will not allow the opportunity to pass of completely investigating the whole subject along the two lines I have suggested. I think the chances are all in favor of a satisfactory issue, and the matter is of so much interest as to warrant any effort which may be put upon it.

CHARLES CATLETT.

Staunton, Va.

## AMBITIOUS FOR ITALIANS.

An Enthusiast Discusses Agricultural Opportunities in the South.

Alfred E. Baccini, in an editorial review in *Il Vesuvio*, the leading Italian newspaper of Philadelphia, of some recent articles in the *Manufacturers' Record* in favor of Italian immigration to the South, says in reference to the opportunities in the South, "where the industry of the Italians would earn them a comfortable living, which they never could attain by remaining in the great cities waiting for someone to give them employment":

"The territory of the South is open to the thrifty Italian, and it would be a practical and timely act if the agents of immigration would direct the newcomers toward that fertile region as soon as they shall have disembarked upon this land, so full of hopes in a prosperous future—hopes that at times are made delusive by remaining in the principal cities, where a dollar gained is also quickly spent: hopes that do not realize that ease, prosperity and comfort, which can be had by passing on to places where the soil is rich and where the labor of the active workman and his intelligence is needed to make the land surrender the wealth which lies hidden within it.

"The movement initiated by the *Manufacturers' Record* of Baltimore by inviting foreigners to inspect the extensive plains of the South, to take and become proprietors of farms, to begin the cultivation of cotton, to settle with honest, industrious people the generous fields, is lauded beyond measure; above all, because it invites into the South a population which loves and respects the laws and is active and intelligent, and also because it aims at guiding the Italian to pursue in this great nation that calling to which his knowledge and industry gives him the right. We will favor as much as we possibly can this movement. We will so advise our fellow-countrymen that in place of staying idly in the cities they will go where the ground is productive, where riches and prosperity await them, and not a great while shall elapse before the Italians shall be respected and beloved in the land more than the inhabitants of other regions, who have not, like the Italian, a special talent for farming—that fountain of the prosperity of a great nation.

"We would like to see that day of happiness for our colonies in this hospitable country come quickly; we would like to see, in short, the Italians occupying seats in the legislature, in Congress, in the Senate as a result of their agricultural industry, as a way towards becoming esteemed, respected and beloved. If our compatriots will listen to our voice and to that of those wise and noble Americans who have learned to appreciate the virtues and gifts of the Italian people, the longed-for day will soon dawn, and the Italian attain his just status."

The *Commercial Courier* of Venice quotes from the *Manufacturers' Record* on the value of Italian immigrants, and notes that the larger part of those at Independence, La., are Venetians.

It is estimated that building operations in Huntington, W. Va., this year will represent an investment of \$900,000.



## INDIVIDUAL EXHIBITS AT ST. LOUIS.

[Special Correspondence Manufacturers' Record.]

St. Louis, Mo., October 17.

The style of the exhibit of the New York Leather Belting Co., as a reference to the illustration accompanying this will show, is very unique. The exhibit was designed by the general sales manager of this company, Mr. C. F. Aaron, who has had the good fortune to have at every national exhibition held in recent years an entirely different style of exhibit than any previously shown in leather belting by other manufacturers in this line. As the object of this company was to give as comprehensive an idea of the variety of its products as possible, it happily hit on the plan of building the entire exterior and interior of its booth of leather products made at its own factory. The general outward plan of the exhibit is columns 10 in number and each 10 feet in height, each column containing about 10,000 feet of round leather belting, making

including lace leather and tipped lacing.

A very instructive part of this exhibit is that on which the strips of leather carried for belting are mounted. These show the exact location from which every size of belt is cut that enters into its renowned Phoenix brand of belting.

The floor space in its booth is given up to the machinery used in making its belting. Owing to the lack of space, no display of the currying of the leather is made, but all the machines necessary to cut the leather up into strips, scarf the ends for lapping, together with power press for cementing, finishing and trimming machines, are included in its exhibit.

The object aimed at by this company in putting in a practical working plant and manufacturing leather belting at the St. Louis Exposition is to teach the users of leather belting just how the article was made and the various conditions necessary

sult in more benefit to the user and protection to the good name of the article by those selling it to the trade.

The importance of leather belting to the manufacturing community can be appreciated when one considers that almost every pulley that turns any machine has its motion conveyed to it by a belt, and 90 per cent. of the belting used in manufacturing plants are made of leather.

This company has been awarded a gold medal for the excellence of its product by the jury of awards at the St. Louis Exposition, as well as every other fair where it has shown its product. The officers of the company are C. E. Aaron, president; J. R. Stine, secretary and treasurer; C. F. Aaron, general sales manager. Its factory in New York is one of the largest and most complete in the line.

### Progress of the Diesel Engine.

Scarcely an engine comes on the market nowadays but that some new and revolutionary feature is claimed for it. The new feature may be helpful, but new and

the east his attention will be arrested by a crowd, and if he is curious he will find that the crowd is looking at an engine.

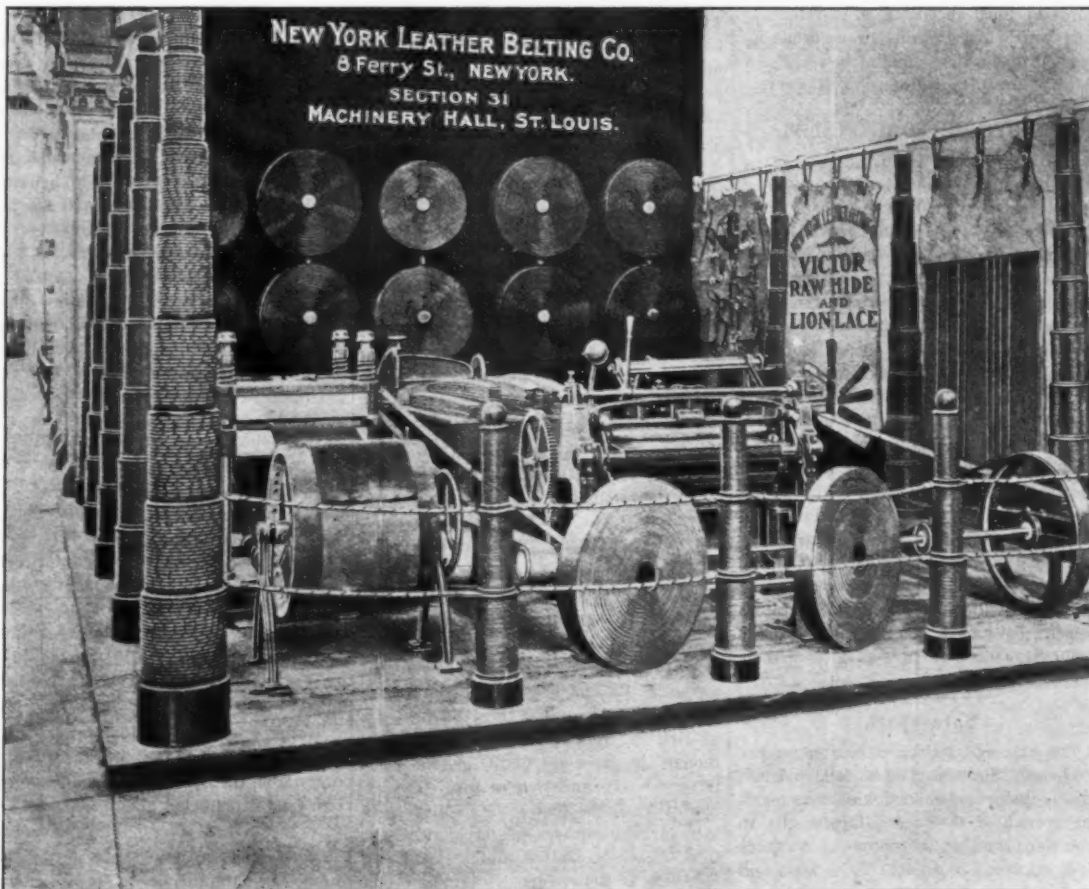
At this end of the Pike, just back of the Tyrolean Alps, and furnishing light and power, is the Diesel engine. The sight-seer stops here with the rest of the crowd and sees in actual operation the form of power which is sure, if any is, to supplant all others. There is no one at hand, however, with no other duty to perform than to explain to the passing throng the merits of this exhibit. It is an exhibit characterized by life, activity and work. But the crowd passes on, and to it the Diesel engine is hardly more than a name, though some may have read just inside the railing that bars them out some interesting figures as to the cost of operation—figures so low and startling that they wonder, and there may be those who doubt, but they are doubting facts.

Though there is no "spieler" to shout the merits of the Diesel engine through a megaphone, inquiry will elicit some interesting facts. It may be learned here that this engine bears the name of the inventor, Mr. Rudolph Diesel, of Munich, Germany, who is not only an eminent engineer, but a scientist as well. Indeed, the engine could not have been invented except by a man familiar with the great laws of chemistry and physics, who combined with this knowledge the ingenious mechanical mind capable of putting them to use.

Basing his experiment on the fact that air compressed sufficiently can be raised to a red-hot heat, and involving, too, that oil brought in contact with superheated air ignites and forms expansive hydro-carbon gases of combustion. Diesel began his experimenting in 1893. The result of Diesel's investigations was the "Diesel motor," but bold and rational experimenting lead logically to greater units. But what was known as the "Diesel motor" is now more properly called the "Diesel engine." From the 12-horse-power of the first year this engine has been increased in efficiency until at the present time the owners are turning out engines of a horse-power nearly 34 times as great as that of the engine which was constructed in the first year.

The Diesel engines first built in this country by the company organized by Mr. Adolph Busch of the Anheuser-Busch Company, the great brewers of St. Louis, in 1897, were not satisfactory, and many changes had to be made. In 1901 the company was financed, and the manufacture of the engines and the mechanical direction of the plans for their development were placed under the control of Mr. Joseph H. Hoadley of New York, and from his improved designs the engines are now built with great success. Mr. Adolph Busch, of course, actively co-operating with Mr. Hoadley in the broadest development of the engine and of the company controlling these patents.

In design and appearance the Diesel follows the lines of the vertical enclosed-type engine. It differs, though, from all other internal combustion engines by drawing in a full charge of air, which is compressed by the upward stroke of the piston, and so raised to a temperature far above the flash point of the injected oil. The oil is introduced into the cylinder when the atmospheric air is at its greatest compression, and hence most intense heat. It is injected automatically at this point by means of compressed air under greater pressure even than that in the cylinder. Combustion immediately takes place, and gases are formed which in their expansion drive the piston down and open up the exhaust valves, which allow the escape of the products of combustion on the upward stroke of the piston. More air is now sucked in, and the process is again re-



100,000 feet in all, running from one-sixteenth to three-eighths inch in sizes of round and twist leather belting.

This serves to call attention to this part of the product, of which it is the largest manufacturer in the world. The columns are linked together by large diameter of twist and patent solid round belting. As a background to the exhibit it has six standards that hold three rolls each of the belting. On these standards are hung all the leading sizes of belting in rolls, showing the appearance, thickness and uniformity of its manufactured leather belting.

It also has displayed in rolls its Victor Balata Belting, a product that it enjoys an exclusive sale on and without competition in this country as to the quality of goods and service this belt is capable of giving.

At the sides of the exhibit it has utilized oak bark tanned belting butts exactly as they come from the tannery, and have mounted on these the leather as it prepares it for making its leather belting, halters, hame straps and other specialties,

to the production of the highest values in leather belting. To accomplish this it cuts and manufactures the leather into belting right in sight of every visitor, and maintains an expert who demonstrates the system of cutting adapted by this company alone.

This system is based on the physical construction of the animal's hide and studied so it is scientifically correct, and no one interested in leather belting can help being instructed and benefited with the knowledge imparted by its expert.

This company does all its business through authorized agents selected from the most representative supply houses in the leading manufacturing cities in this and other manufacturing countries, and has utilized its exhibit as a school for instructing the salesmen in the employ of its Western and Southern agencies, as well as any salesman engaged in the sale of leather belting, whether employed by any dealers in this article or competitive manufacturers, as it believes that a greater knowledge of the best qualities that can be incorporated into belting will re-

revolutionary are not synonymous now to the mind of the inventor or the manufacturer.

In Machinery Hall or in the Transportation Building at the St. Louis Fair one does not have to go far to be convinced, if he be credulous enough, that every machine he sees is destined to work a revolution in the furnishing of power. The inquisitive visitor here hears marvelous tales from each manufacturer's representative he stops to talk with of how this or that new feature of his engine is in time going to relegate to the dump-heap all the other magnificent specimens of mechanical ingenuity that surround him. It is enough to produce melancholy to think that all these engines have been brought to their splendid development only to have their places taken by another form of power.

Utterly at loss to know what is really the greatest mechanical invention of the age, he will probably give up the problem and turn his steps toward the Pike, where refined speculation is one of the lost arts. But if the visitor enters the Pike from

peated, from which it may be seen that the action of this new heat engine is on the four-stroke or Otto cycle; in other words, there is one working stroke in every four.

The combustion which takes place in the cylinders of the Diesel engine when oil is automatically sprayed in is always within the limits of pressure and temperature and under perfect control, and though this burning raises the heat of the air still further, it is not rapid enough to cause any increase in pressure; consequently, the action is not in any sense an explosion. It is in this way that a steady pressure is maintained on the piston until cut off at one-tenth of a stroke; but after this the gases work expansively until the exhaust valve opens and the return stroke of the piston expels them from the cylinders.

The oil is lifted into the chamber by a small petroleum pump on the engine, and compressed air from a separate compressor forces this into the cylinder while the fuel valve is open. This compressor also serves to store up surplus air in a small tank, and is used for starting the engine when cold.

When the engine is cold and it is desired to start it, the engine is first put in a starting position, e. g., the piston-rod is so placed that between it and the shaft upon which revolve double fly-wheels there is a slight lever arm. A handle contrived to bring into operation a starting cam operating a starting valve is now made use of. By this means air is admitted to the first cylinder and drives the piston for one or two revolutions until the compression of atmospheric air in the other cylinders (of which there are three symmetrically arranged and all driving the same shaft) is sufficient to ignite the charges. So soon as combustion begins the air from the compressor is automatically cut off and the fuel injected into the starting cylinder. The engine now runs itself.

The Diesel engine is remarkable for the fact that it is the only engine made that is run entirely by crude oil and burns it satisfactorily just as it comes from the well, which ranges in cost from almost nothing at the well to from three to four cents per gallon in the East. With oil at three cents per gallon and a consumption of only seven and one-half gallons per 100 horse-power per hour, a kilowatt may be delivered on the switchboard at a fuel cost of three-tenths of a cent. This, however, is not what one engine is doing, but is being done daily by 1000 Diesel engines from Maine to California.

The economy of this engine is all the more striking when it is compared with both steam and gas engines of the same horse-power. The following figures show the comparative cost of running:

A 100-horse-power Diesel engine uses at full-brake load from seven and one-half to eight gallons of fuel oil per hour, which at a cost of four cents per gallon delivered amounts to a cost per hour of 32 cents. Per year of 3000 hours the cost is, therefore, \$960. The same power in the best gas engine requires 1800 cubic feet of gas per hour, and this at 60 cents per 1000 feet is \$1.08 per hour or \$3240 per annum. On the other hand, the cost of operating a first-class high-speed engine of 100 horse-power, such as are used to drive electric generators, will require 400 pounds of coal for every hour at a cost of \$3 per ton, and extra attendance will amount to 20 cents per hour. The total cost then per hour is 80 cents, and per annum it is \$2000. Thus the annual saving effected by the Diesel engine is \$2280 over the gas engine and \$1440 over the steam engine. These savings capitalized at 6 per cent. would justify a plant investment of \$38,000 and \$24,000, respectively, over and above those for a gas and steam-engine plant.

The Diesel engine, however, does not effect an economy in running altogether on account of the cheapness of its fuel. An important item is the saving on a variable load. It does not consume at half-load over 60 per cent. of the fuel it consumes at full load, and from this it may be seen that the consumption is almost directly in proportion to the work done. On the other hand, this is not the case with either the gas or with the steam engine. A gas or steam engine at half-load consuming 60 per cent. of the fuel used with full load would actually stop work because of lack of power. But aside from economy of fuel, the main advantages of the Diesel over gas or oil engines of the explosive type depend on the more gradual and elastic alterations (?) of stress, the absolutely-controlled pressures, the greater steadiness, certainty of ignition, the absence of explosions and the maintenance of high efficiency under variable loads. No fireman, moreover, is required, for the oil is fed in automatically, and there is no boiler to clean and no ashes to remove when the engine is stopped. Such an engine is, therefore, at least worth investigating by everyone interested in the furnishing of power.

JOHN SHARSHALL GRASTY.

#### TENNESSEE COAL FIELDS.

Chicago Capital to the Extent of \$1,000,000 Interested in Their Development.

Messrs. N. C. Chapman, Charles Spalding and Henry E. Weaver, all of Chicago, Ill., have returned from an investigating tour of their coal lands on the Tennessee Central Railway in Tennessee's coal regions. Mines have been opened at Crawford, Waldensia and Mill Stone, and in the near future operations will be extended throughout the entire Cumberland-mountain section. It is stated that the steaming coal obtained is of a high grade, and that the quality is equal to that found in Pennsylvania. About a trainload of this coal is now being shipped every day over the Tennessee Central to the Chicago market. According to reports emanating from Nashville, the Chicago operators named above have determined to expend about \$1,000,000 to further develop their holdings.

#### Shreveport.

The Shreveport Progressive League has published "Shreveport of Today," a handsomely-illustrated collection of facts about the growth of the second largest city in Louisiana and of its tributary territory in Northwest Louisiana. These facts will be found of value by the homeseeker, investor and capitalist, in that they clearly show the agricultural, manufacturing, mineral, timber and other resources of the section. Incidentally they tell of the work accomplished by the Shreveport Progressive League, one of the active business organizations of the State growing out of the conception of Col. A. R. Blakely of New Orleans six years ago, organizations that have done effective work in the development of Louisiana.

#### New Orleans to Venezuela.

Emiliano Martinez, consul for Venezuela at New Orleans, is authority for the report that plans are making for the establishment of a regular line of steamers between New Orleans and Venezuelan ports. The success of the plan, in which bankers and merchants of Venezuela are interested, is expected to draw through New Orleans much of the breadstuffs and produce of the Northwest bound for the South American State.

The Mobile, Jackson & Kansas City Railroad Co. is employing Italians on the grading of the line.

## LUMBER

[A complete record of new mills and building operations in the South will be found in the Construction Department.]

#### Carolina Paper Material.

Mr. Gerald McCarthy, biologist of the North Carolina Department of Agriculture, discussing the prospects of paper-making in that State, says:

"Owners of timber lands in Western North Carolina have tracts of timber locally called 'balsam spruce.' Inquiries have been made of the North Carolina department of agriculture as to whether this timber can be used as a substitute for Northern spruce in paper-making. We are sorry to say it cannot. The North Carolina 'balsam spruce' is properly called a fir. The wood is heavily impregnated with resin or 'balsam,' which renders it unfit for making paper. The mountains of North Carolina grow the true paper spruce—*Picea nigra*, but this tree occurs only at elevations above 4000 feet, and is too inaccessible to be of commercial value. There are many other sources of paper fiber which may be commercially utilized in North Carolina. Among these we may name the cotton, flax, wheat, oat, rye and rice plants. The tough and valuable paper called by the trade 'Japanese rice paper' is in reality made from the inner bark of the *Otaheite mulberry*, misnamed 'white mulberry' in some parts. This tree is hardy everywhere in North Carolina and can be made a source of considerable wealth. For making the finer grades of writing and printing paper the cotton and flax plants offer the greatest possibilities. There is a good chance to establish paper-making in this State, and thus provide a home market for cotton and flax fibers of low grades and the by-products of these two plants now not utilized. It is hoped that some enterprising capitalist will make the attempt."

#### Turpentine in Honduras.

A significant fact bearing upon the turpentine industry in this country is the announcement that Mr. Buckner Chipley of Pensacola, Fla., has been given the privilege of tapping, upon payment of one cent a tree, of 12,500,000 pine trees in British Honduras. About one-third of the area of British Honduras is pine ridge, and though the trees are not large, the wood is very heavy and rich in sap. The exploitation of the pine woods will necessitate large purchases of mechanical and food supplies. United States Consul W. L. Avery at Belize reports that the people of Honduras believe that the Chipley venture will be a success. And he adds that while the concession was secured primarily for the purpose of making turpentine and exporting timber, the enterprises that will develop later will not be confined to these aims. Tramways, permanent roads and agriculture will surely follow, and the opening of the unexplored lands of a colony will be effected, or at least largely advanced.

#### Big Mill for North Carolina.

The Waccamaw Land & Lumber Co. is one of the corporations which proposes to be in a position to supply cypress and juniper lumber to the United States government for Panama work. It was recently chartered in North Carolina, and intends to build a large plant at Wilmington or Southport, in that State. About 175,000 acres of timber land have been purchased at about \$337,000, to be developed for the timber. These lands are practically all of the Green Swamp lands in Brunswick and Columbus counties. The Waccamaw Company is composed of Detroit (Mich.) capitalists, F. W. Wheeler

being president; Collin E. Clark, treasurer, and E. H. Silleman, secretary-manager. They will remove to Wilmington in order to give their personal attention to the enterprise. The capital stock of the corporation is \$1,000,000.

#### Chance for Hardwoods.

The American consular agent at Markneukirchen, Saxony, reports that hitherto the many musical-instrument manufacturers in that district have derived their raw material almost exclusively from Hungary and South America. Lately the supply of Surinam wood has become so limited that toward the close of 1903 it almost wholly failed. A good trade awaits the American lumber dealer who can furnish satisfactory maple (bird's-eye, curled and plain) and clear white pine. No business in this line can, however, be done without the display of samples. The American consular agent at Markneukirchen, William F. L. Fiedler, will be glad to receive such samples and give all possible aid to prospective dealers.

#### Lumber at Liverpool.

The Monthly Timber Circular of Duncan, Ewing & Co. of Liverpool, dealing with United States woods for the month of September, reports an import of 94,000 cubic feet of hewn pine to Liverpool, and consumption of 75,000 cubic feet in Liverpool and 3000 feet in Manchester, leaving the stock at 150,000 cubic feet; an import of sawn pine of 262,000 feet to Liverpool and 123,000 cubic feet to Manchester, with 494,000 feet consumed at both places, leaving the combined stock 1,474,000 feet; an import of 153,000 cubic feet of boards and planks to Liverpool and 75,000 cubic feet to Manchester, with consumption of 207,000 cubic feet and stock of 471,000 feet.

#### Wants Hardwoods.

J. J. S. Willis of Mt. Andrew, Ala., writes the Manufacturers' Record that he wants to correspond with manufacturers of and dealers in all kinds of hardwoods, especially beach, gum and magnolia.

#### Lumber Notes.

The Interstate Saw-Mill Association at its Savannah meeting decided to be incorporated.

Hanna & Co. of Wilmington, N. C., who operate a box factory, have received an order from the Standard Oil Co. for a million boxes, requiring about 6,000,000 feet of lumber.

It is announced that the Wiley-Harker-Camp Manufacturing Co. of New York has purchased the Mt. Airy & Eastern Railway Co., running 22 miles from a point near the North Carolina and Virginia border to the headwaters of Dan river, where the company controls about 10,000 acres of hardwood timber lands.

#### Through the Rice Fields.

In a letter to the Manufacturers' Record President Burton B. Hurd of the American Rice Cereal Co. of Kansas City, Mo., announces that a business men's excursion through the entire coast country and rice fields of Texas will leave Chicago October 18. A similar trip of inspection was recently made by Gen. Nelson A. Miles and others, who express themselves in a manner flattering to those through whose foresight, energy and business judgment the rice business has been brought to its present high state of development.

A movement is under way for the establishment of direct steamship service between Galveston and Colon.

It is reported that a party of French capitalists will investigate the oil field of North Alabama.



## RAILROADS

[A complete record of all new railroad building in the South will be found in the Construction Department.]

### SOUTHERN RAILWAY.

#### Large Increase in Earnings and Growth of Industries Along Its Lines.

The tenth annual report of the Southern Railway Co., for the year ended June 30 last, shows an increase in gross earnings of well up towards \$3,000,000. The exact figures are gross earnings \$45,109,777, increase as compared with the fiscal year ended June 30, 1903, \$2,755,717; operating expenses and taxes \$33,115,467, increase \$2,126,327; net earnings \$11,994,310, increase \$629,390; total income \$13,389,491, increase \$813,310. After paying interest and rentals, making other deductions from income and also paying dividends on the preferred stock, besides making special appropriations for improvements and betterments not to be capitalized, there was left a balance to the credit of profit and loss of \$406,593; total balance to credit of profit and loss \$6,162,898.

At the close of the year the system consisted of 7197 miles, an increase of 60 miles during the year. This increase includes the Knoxville & Bristol Railway, about 40 miles, and the Tennessee Northern Railway, about 11 miles long, besides several small branches and spurs. The special appropriations for improvements were for reduction of grades and curves, abolishment of grade crossings, new shop and station buildings, strengthening bridges, etc.

Referring to the improvement on the Washington division, the report says that the work of reducing grades and curves and the building of second track was expected to be completed and put in operation by November 1 for a distance of 77.8 miles from Alexandria to Orange, Va. Improvements have been made by adding track to the yards at Spartanburg, S. C., Monroe, Va., and Princeton, Ind. Additional yards are now under construction at North Birmingham, Ala., and Pomona, N. C. During the year the Percy branch, from Stoneville to Percy, Miss., 23 miles, was converted from narrow gauge to standard gauge. The construction of the Okolona-Big Creek line was completed from Okolona, Miss., to a point in Calhoun county, Mississippi, about 30 miles, and was put in service June 1.

The immigration and industrial department of the company furnishes data about the encouraging growth of that part of the Southern States covered by the Southern Railway Co.'s lines. There were completed during the year in this territory 544 new industrial plants, and at the close of the year there were 94 under construction. Material enlargements were also made on 206 plants that had previously existed. There were 19 new textile mills finished and put in operation, and these, together with additions made to mills that already existed, furnished an increase of 17,114 looms and \$22,298 spindles. It is also noted that there was a healthy growth in furniture factories, knitting mills, lumber, woodworking, brick, clay and other industries.

### WABASH RAILROAD.

#### Earnings Show Increases for Seven Consecutive Years—The Pittsburg Line.

The annual report of the Wabash Railroad for the fiscal year ended June 30 last displays a gratifying increase in gross earnings. The figures are gross \$23,023,026, increase \$1,882,797; operating expenses \$17,683,508, increase \$1,867,846; net earnings \$5,340,117, increase \$14,951; percentage of operating expenses to earn-

ings 76.81, increase 2. Making deductions from the total revenue of the company to cover operating, taxes, rentals, interest on bonds, cost of additions to property, sinking-fund charges, dividend on debentures and miscellaneous, there is left a surplus of \$14,291.

This is the seventh consecutive year the company has shown an increase in gross earnings, but conditions affecting operating expenses have been abnormal. Wages were advanced 12 to 15 per cent. on the Western and Middle divisions during the year, making an increase in expenses of about \$400,000. In addition to this expense, the winter weather was extremely severe, both reducing earnings and largely increasing operating expenses; moreover, the cost of fuel during the first 10 months was nearly 30 per cent. greater than in the previous year, besides the preparation of the line for the exposition traffic also increased the expenses considerably. Furthermore, between St. Louis and Chicago the improvement of the line was continued, and is now practically complete, 18 curves having been removed and the mileage of grades changed over 31 miles, so that the average train load has been increased from 1100 tons to 1850 tons.

Concerning the Pittsburg extension the report says that on July 2, 1904, the line was opened for through passenger traffic and through train service between St. Louis, Chicago and Pittsburg by Wabash trains. The Pittsburg extension is composed of the Wheeling & Lake Erie Railroad and the Pittsburg, Carnegie & Western Railroad, the latter, through consolidation with the Cross Creek Railroad in West Virginia and the Pittsburg, Toledo & Western Railroad in Ohio, has become the Wabash Pittsburg Terminal Railway, and it owns control of the Wheeling & Lake Erie, the Wabash, in turn, owning control of the Wabash Pittsburg Terminal Railway. It is confidently expected that the control of these properties and of the traffic secured by the Wabash thereby will add largely to the revenue of this company.

The outlook for the current fiscal year is excellent, according to the report, which says that the passenger traffic is enormous, and will remain so until the end of the St. Louis Exposition. Freight traffic, while less than 1903, is still greater than 1902, and improvement is expected before the end of the year.

### CLINCHFIELD DEAL.

#### Crane's Nest Coal Co. and South & Western Road Get New Capital.

The Union Trust Co. of Baltimore has, it is announced, disposed of its interests in the Crane's Nest Coal Co. and the South & Western Railway Co. The plan in connection with these corporations was to construct a railway extending from the mines at Tom's Creek, Wise county, Virginia, to connect with the Seaboard Air Line at or near Lincolnton, in North Carolina. The purchaser of the interests is the Clinchfield Corporation (named after the coal region), and New York, Philadelphia and Baltimore capitalists are interested in it. James Clark, president of the Drovers and Mechanics' National Bank of Baltimore, is president of this new company, and the other directors are Miles White, Jr., and J. Southgate Lemmon of Baltimore, George L. Carter of Bristol, Tenn., who is president of the South & Western Railway, and Archer A. Pelegar of Virginia. Others will, it is stated, be added to the board to represent the New York and Philadelphia capital.

The Crane's Nest Coal Co. has 112,000 acres of coal lands in Wise and Dickenson counties, Virginia, and the South & Western Railway has 64 miles of line from Johnson City, Tenn., to Spruce Pine,

N. C., and it is reported to have graded considerable more road. Three years ago, when the plan was first disclosed, it was proposed to build northward as well as southeast, the purpose being to have a connection with the Detroit Southern Railway at Ironton, Ohio, and thus have a continuous line from the Lakes to the Atlantic coast.

### FIRST ELECTRIC ROAD.

#### A Southern City Saw the Beginning of Trolley Lines for Regular Work.

The Street Railway Journal, published by the McGraw Publishing Co., 114 Liberty street, New York, has issued a very handsome twentieth anniversary number of about 550 pages, beautifully printed and illustrated, containing many valuable articles upon the development of street railways, particularly electric roads, during the last two decades.

One of the most interesting contributions in the book is by Leo Daft, and relates to the old Baltimore & Hampden Electric Railway, which was built in Baltimore in 1885 and operated for four years, thus giving to a Southern city what Mr. Daft terms "the first commercial electric railroad in America." The road began operations regularly on August 15, 1885, and ceased in the fall of 1889. The line was operated by the third-rail system, with overhead trolley at the curves.

Considerable space is also given in the volume to a description of cars, safety devices, etc., and other equipment of the New York underground railway, the latest development of electricity in connection with railroads to be found in the United States.

### Liberty City, Glennville & Manassas.

The Liberty City, Glennville & Manassas Railway Co., recently chartered in Georgia to build a line about 40 miles long from Liberty City to Manassas, has the following incorporators: D. M. Bradley, Sr., J. D. Bradley, D. M. Bradley, Jr., and A. I. Hendry of Hagan, Ga.; R. R. Purcell and J. C. Groover of Tattnall county, Georgia; H. W. Tippins of Manassas, Ga.; W. H. Bradley of Waycross, Ga.; James K. Hines and Thomas Evans of Atlanta, Ga. Liberty City is on the Plant system in the southern part of Liberty county, about 50 miles southwest of Savannah, and Glennville is about 20 miles northwest in Tattnall county, at the terminus of the Register & Glennville Railroad, while Manassas is about 20 miles further on the Seaboard Air Line, about 55 miles west of Savannah.

### B. & O. Wins Many Medals.

The Baltimore & Ohio Railroad Co. has been awarded the special gold medal for its exhibit at the St. Louis Exposition. The company was also awarded the grand prize, likewise a gold medal, on its section. In addition to this, 18 collaborators' medals were awarded to those who had contributed to the Baltimore & Ohio section. Major J. D. Pangborn, director of the exhibit, was awarded a gold medal of honor for his work in originating and completing as well as installing this historical collection of locomotives and locomotive models. The grand prize and gold medal of engineering and architecture was also awarded on the model of the new union station at Washington, which is in the B. & O. section.

### Pamlico, Oriental & Western.

The W. A. Cullen Construction Co., 25 Broad street, New York, which is building the Pamlico, Oriental & Western Railroad from Newbern, N. C., to a point on Pamlico sound, writes the Manufacturers' Record regarding the progress of construction on the line. The company says:

"We have the bridge of 5500 feet across the Neuse river something over 75 per cent. finished. We are now putting in the steel draw, and we expect to have this part of the work ready for trains to run over by the 20th of November.

"We have about five miles of the track laid and about seven miles graded ready for ties and rails. We expect to finish the first 17½ miles, that is, into Bayboro, by the 1st of January."

### Burning Springs Railway.

Mr. William E. Hoskett, Columbus, Ohio, concerning the Burning Springs Railway Co., lately chartered in West Virginia, informs the Manufacturers Record as follows: This road is one and one-half miles long; connects with the Kanawha & Michigan Railway, and will be used exclusively for hauling coal from our own mines. The road is almost completed, and will have a delivery of 20 gondola cars by the 1st of November from the American Car & Foundry Co. of Huntington, W. Va. The railway company wants cheap second-hand switching engine of standard gauge that will weight from 15 to 20 tons. V. S. Klick is manager, 898 Factory street, Columbus, Ohio.

### The Railways' Passenger Agents.

The American Association of General Passenger and Ticket Agents, comprising 500 members, with their families, is holding its annual meeting at Old Point Comfort, Va., this week. The annual oration was made Wednesday night by Mr. S. H. Hardwick, passenger traffic manager of the Southern Railway Co. His speech outlined clearly and comprehensively the benefits and advantages of the passenger department of a railway company, its importance as a factor in promoting friendly relations as between the public and the common carriers, and as a vantage-ground for the realization of great possibilities by the passenger man.

### Pan-American Road.

A dispatch from the City of Mexico announces that the Pan-American Railroad has been acquired by a St. Louis syndicate. David H. Doak of St. Louis is president, and J. M. Neeland, formerly general manager, is now vice-president. Among others reported interested are Howard Elliott of St. Paul, Minn., president of the Northern Pacific Railway, and Governor E. C. Creel of the State of Chihuahua, Mexico. The company has completed 200 kilometers of track from San Geronimo, on the Tehuantepec National Railroad, to Port Tonola, and this is to be opened on November 1.

### Projected Single-Rail Line.

The American Monorail Co., organized to develop an invention for running cars on a single rail, is reported to be making surveys for a line between Baltimore and Ellicott City, Md., about eight miles. The officers of the company are Thomas E. Powell of Providence, R. I., president; J. Coleman Drayton of New York city, treasurer; Henry W. Williams of Baltimore, secretary. The other directors are Gardiner C. Sims of Providence, R. I.; William A. Mellin of Washington, D. C.; E. L. Tunis and Olin Bryan of Baltimore. Howard H. Tunis, also of the latter city, is the inventor.

### Wetmore to Cartersville.

Wright, Williams & Wadley of Birmingham, Ala., have been awarded the contract to build the extension of the Atlanta, Knoxville & Northern Railroad from Wetmore, Tenn., to Cartersville, Ga., about 88 miles. The work is to be completed in 10 months. It is stated that the firm will immediately put 300 to 500 teams on the job, and will employ from

1200 to 1500 men. J. H. Peyton of Madisonville, Tenn., is engineer in charge of the work, and R. Montfort, chief engineer of the Louisville & Nashville Railroad, which controls the A., K. & N., awarded the contract.

#### Has Not Sold Out.

The statement in a press dispatch that the Denver, Enid & Gulf Railroad had been sold to the Missouri, Kansas & Texas Railway is denied by John Overholt, general superintendent of the company, in a letter from Enid, O. T., to the Manufacturers' Record. He says there is no truth in this statement of the Denver, Enid & Gulf selling out, and adds that work on its northern extension is progressing rapidly, and it is expected to begin tracklaying about November 10.

#### Black Bayou Railroad.

The Black Bayou Railroad Co. has been chartered to build a line 25 miles long from Myrtis, La., to Stanley, Texas, with office at the latter place. The directors are F. E. Gloyd, A. M. Gloyd of Kansas City, W. B. Gloyd of Myrtis, La.; D. D. Dodd, Lucy D. Dodd, G. V. Crawford of Atlanta, Texas, and Lola McMichael of Jefferson, Texas.

#### Railroad Notes.

It is reported that the Pennsylvania Railroad Co. has prepared plans for building a new union station in Baltimore to take the place of the present structure.

The Mobile, Jackson & Kansas City Railroad Co. reports through the Interstate Securities Co., 5 Nassau street, New York, earnings from July 1 to October 1 \$116,997, increase as compared with the same period of 1903 \$26,788.

The Baltimore & Bel Air Electric Railway has put in service the first completed section of its line from Hamilton, near Baltimore, to Carney, about three miles. The road connects at Hamilton with the United Railways of Baltimore, which is at present operating the new line.

President B. L. Winchell of the Rock Island system is reported as saying that the projected union-station improvement at Kansas City, Mo., will be on a much larger scale than originally proposed, and that the plans now under consideration will require the expenditure of \$20,000,000 or \$25,000,000.

The Dalhoff Construction Co. of Little Rock is reported to have begun work at Antoine, Ark., to build the Gurdon & Fort Smith Railroad of the Missouri Pacific and Iron Mountain systems. Antoine is on the Arkansas Southwestern Railroad, and the new line is to run northwest about 160 miles via Caddo Gap to Greenwood, Ark. Work has been going on for some time at Caddo Gap.

Frank Powers of El Paso, Texas, has been awarded the contract to build the new union station there by the Union Depot Co., the president of which is H. U. Mudge, general manager of the Atchison, Topeka & Santa Fe system at Topeka, Kan. The Southern Pacific, Texas & Pacific, Mexican Central and other lines are also interested. The cost of the station will, it is stated, be about \$245,000, this including the grounds.

The Calvert (Texas) Board of Trade is considering the erection of a cannery and packery to handle and market fruits and vegetables grown in the vicinity of the city.

The Southeastern Millers' Association has re-elected for the year Mr. E. M. Kelly of Nashville, president, and W. R. Donnelly of the same city, secretary.

The discovery of a large bed of pyrites in Coffee county, Tennessee, is reported.

## TEXTILES

[A complete record of new textile enterprises in the South will be found in the Construction Department.]

#### The Monarch Cotton Mills.

The Manufacturers' Record has frequently referred to the Monarch Cotton Mills of Union, S. C. This company began to erect its plant in May, 1900, and in the fall and spring following 14,000 spindles and 350 Draper looms were installed. In the spring and summer of 1903 the mill building was doubled in size and 40 tenement-houses were added. During that summer and fall 14,000 spindles and 350 Draper looms were added, and in the spring and summer of 1904 10,000 spindles and 300 Draper looms were added, making a total of 38,000 spindles and 1000 Draper looms. Now the company has completed the building of 40 more tenement-houses and a handsome school building, the latter costing about \$4000.

The Monarch Cotton Mills is situated about one and one-half miles east of the city of Union, on an unusual elevation, which makes it an ideal mill site, commanding a splendid view for miles around, splendid drainage and an abundance of pure well water. An electric railway is now being laid through the village, connecting with Union and other points. The village is laid off in beautiful streets and avenues, which are graced by two churches (and another is under way) and a model schoolhouse.

The Monarch improvements this summer cost about \$125,000.

#### Big Twine Mill at Baltimore.

In issues of the Manufacturers' Record last March and April particulars were presented regarding the net and twine mill to be built at Baltimore, Md., by the William J. Hooper Manufacturing Co. This plant is now completed, and a reference to it is of interest. It comprises a main building four stories high, 80x200 feet; annex two stories high, 30x125 feet; engine-house 33x42 feet, boiler-house 33x36 feet and reservoir, for fire protection, with capacity of 100,000 gallons. Electricity will be used largely for operating the machinery, 80 looms, etc., and for lighting purposes. The company's previous plant was destroyed by the fire of last February, and temporary quarters were at once secured, where 120 operatives have been employed. This temporary mill will be abandoned next week, when operations begin in the new establishment, employing about 300 operatives. The W. & J. Knox Thread Co. of Scotland, the Linen Thread Co. of New York and the Barber Brothers Co. of New York are interested in the Hooper corporation.

#### The Ide Cotton Mills.

Last May the Manufacturers' Record announced the organization of the Ide Cotton Mills of Jacksonville, Ala., and presented brief details regarding the plant to be built. Messrs. Duke & Journey, contractors for the buildings at about \$36,000, have since been progressing steadily with their work, and the structures will be roofed by November 1. The company expects to have the equipment of machinery in position and ready for manufacturing by January 1. It intends to install 6000 spindles to start with, leaving space for 5000 spindles later on. Yarns will be the product. J. E. Henry of Lincoln, N. H., is president; J. W. Hawke of Piedmont, Ala., vice-president, and Geo. P. Ide of Jacksonville, treasurer. The capital stock is \$200,000.

#### New Mill at Selma, N. C.

In June last the Manufacturers' Record reported the organization of the Selma

Cotton Mills of Selma, N. C., and stated that an equipment of 5000 spindles was planned. Construction work has since been in progress, and it is believed now that the buildings will be completed and the machinery be in position for operation by January 1. There will be, to be exact, 5280 ring spindles installed, the product to be No. 22 hosiery yarn. The company is capitalized at \$100,000, and N. E. Edgerton is its president. Plans and specifications for the plant were furnished by Stuart W. Cramer of Charlotte, N. C.

#### The Trolinwood Manufacturing Co.

The Trolinwood Manufacturing Co. of Haw River, N. C., has been incorporated, with capital stock of \$125,000, for the purpose of establishing a cotton factory. Organization has been effected by the election of John A. Trolinger, president; B. S. Robertson, secretary-treasurer, and J. G. Montgomery, engineer in charge of construction. The mill will have an equipment of 2240 spindles and 125 looms for the production of cottonades, and about 60 operatives will be employed. Contracts for the necessary machinery have been awarded.

#### Will Want Cotton-Mill Equipment.

The residents of Wise, Montague and neighboring counties in Texas contemplate the organization of a company to build a cotton-manufacturing plant. They are now investigating the cotton-mill industry, and anticipate obtaining subscriptions to the amount of \$250,000 to insure establishing their enterprise. Full particulars are wanted regarding the erection and equipment of cotton factories, suggestions as to character of product, methods of marketing, etc. Ed A. Dickenson of Chico, Texas, can be addressed.

#### Textile Notes.

The Crown Cotton Mills, Dalton, Ga., has declared a dividend of 10 per cent.

The Commercial Club of Brownsville, Tenn., is endeavoring to organize a company, with capital stock of \$200,000, for the purpose of building a cotton mill.

Messrs. W. B. Lockett & Co. of Bristol and Knoxville, Tenn., have purchased the Jefferson City Woolen Mills at Jefferson City, Tenn. They will improve and operate the plant.

It is proposed to build a cotton factory at Geneva, Ala., and endeavors to organize a company are now being made by Messrs. W. W. Barnett, D. O. Vaughn, D. L. Watson, C. D. Chapman and Ed. M. Johnson.

The Sherman (Texas) Cotton Mills is about to resume operations. This plant was formerly a seamless-bag mill, but last year it was refitted and equipped for manufacturing cotton cloth. It has 9432 spindles and 160 looms. H. W. Fairbanks is secretary.

Messrs. S. Strudwick, P. C. Collins, T. N. Webb, S. M. Gattis, H. W. Webb, J. C. Webb and E. A. Hughes have incorporated the Bellevue Manufacturing Co. of Hillsboro, N. C., for the manufacture of cotton and other textile fabrics. The capital stock is \$125,000. No further details have been announced.

The Dardanelle Cotton Mills at Dardanelle, Ark., has been sold to New York and Texas manufacturers, who will remodel the plant and put it in operation. There are 3000 ring spindles in the mill, which have been idle for some time. Messrs. R. C. Bullock and C. B. Cotton of Dardanelle arranged the sale.

It is proposed to organize a company with capital stock of \$200,000 for the purpose of building a cotton mill at Searcy, Ark. The plan is to induce Eastern capitalists to subscribe to half the stock and the other half will be subscribed by local

investors. James L. Graham can give information regarding the enterprise.

Messrs. A. G. Elliott, W. E. Matchett and Oliver Peters of Corsicana, Texas, have incorporated the Corsicana Cotton Mills with capital stock of \$100,000. They will take over and operate an established plant—the Corsicana Cotton Factory—recently sold at public outcry. There are 5000 spindles and 150 looms in position.

The Tennille Yarn Mills of Tennille, Ga., is about to begin operations. This company was organized in August, as reported in this column at the time, has purchased the Tennille Cotton Mills and expended some \$15,000 for general improvements. Mule-spun cotton hosiery yarn on cones will be the product. About 4000 spindles will be operated.

The Aldora Mills of Barnesville, Ga., began operations last week, running 9764 spindles on the production of cotton yarns. This is the company which organized and bought the Barnesville Manufacturing Co., idle for several years. The equipment of machinery has been examined and put in good condition. It includes 9764 spindles for producing hosiery yarns.

#### QUOTATIONS OF COTTON YARNS.

By Paulson, Linkroom & Co., New York, Philadelphia and Chicago. October 18.

No. 10s-1 and 12s-1 warps.....	16½ @—
No. 14s-1 warps.....	17 @—
No. 16s-1 warps.....	17½ @—
No. 20s-1 warps.....	18 @18½
No. 22s-1 warps.....	19 @—
No. 26s-1 warps.....	19 @19½
No. 6s to 10s yarn.....	16 @16½
No. 12s-1.....	16½ @—
No. 14s-1.....	17 @—
No. 16s-1.....	17½ @—
No. 20s-1.....	18 @—
No. 22s-1.....	18½ @19
No. 26s-1.....	19 @19½
No. 8s-2 ply soft yarn.....	17 @—
No. 10s-2 ply soft yarn.....	17 @—
No. 8s-2 ply hard.....	16½ @—
No. 10s-2 ply hard.....	17 @—
No. 12s-2 ply hard.....	17 @—
No. 14s-2 ply.....	17 @—
No. 16s-2 ply.....	17½ @—
No. 20s-2 ply.....	19 @—
No. 24s-2 ply.....	20 @20½
No. 26s-2 ply.....	20½ @—
No. 30s-2 ply yarn.....	21 @21½
No. 40s-2 ply.....	25 @—
No. 8s-3, 4 and 5 ply.....	16½ @—
No. 20s-2 ply chain warps.....	19 @19½
No. 24s-2 ply chain warps.....	20½ @—
No. 26s-2 ply chain warps.....	21 @—
No. 30s-2 ply chain warps.....	21½ @22
No. 16s-3 ply hard twist.....	17½ @—
No. 20s-3 ply hard twist.....	19 @—
No. 26s-3 ply hard twist.....	20½ @—

Ernst Bunge, 124 Boulevard de Strasbourg, Havre, France, writes to the Manufacturers' Record that he desires the addresses of firms in San Francisco exporting dried fruit, in Rochester exporting chopped apples, and in Baltimore exporting poplar logs, red-cedar logs and other woods.

It is announced that the big elevators at the new terminals for the Frisco-Southern interests at Port Chalmette, near New Orleans, will be completed by December 15, and it is expected that 20,000,000 bushels of grain will be handled through the terminal the first season.

Mr. A. W. Conradson, O'Reilly, No. 104, Havana, Cuba, writes to the Manufacturers' Record that he has established himself in the general commission business and will accept orders from the United States for hardware, machinery and other articles.

Lucius T. Gibbs, the well-known inventor and builder of practically all the electric wagons and trucks operating on the streets of New York, has joined the mechanical staff of the Manhattan Transit Co. as mechanical and electrical expert.

The first cargo, consisting of 181,000 vitrified brick in a contract calling for 1,250,000, has reached Charleston to be used in paving three of the principal streets there.

During September 10,545 tons of Peace river phosphate rock were shipped to Punta Gorda, Fla.



## MECHANICAL

## The Modern Bridge—Railroad and Highway.

By F. F. S.

Notable tendencies in transportation are towards improved facilities at terminals for direct and economical interchange of freight between railroads and vessels. The economical freight-carrying vessel is constantly increasing in size. Ten years ago on the Great Lakes it was a 3000 to 4000-ton vessel; today it is a 10,000 to 12,000-ton vessel.

Harbor and docking facilities must be improved to permit the free and rapid passage of these vessels. This necessitates the removal of many old-style bridges.

The great advantages of the Scherzer Rolling Lift Bridge have been recognized by the engineers of the principal railroads and government and municipal engineers at home and abroad, which has led to its rapid and extensive introduction.

The first Scherzer was completed in 1894 for Metropolitan Elevated Railway of Chicago. It is a four-track structure, composed of two double-track bridges placed side by side, operated either jointly or separately, as desired. This bridge proved so satisfactory that its construction was followed by others larger than any heretofore constructed, notably:

The six-track Scherzer Rolling Lift Bridge for the N. Y., N. H. & H. Railroad Co. at Boston, completed in 1899.

Eight-track Scherzer for the P., C., C. & St. L., C. T. T. and C. J. railroad companies, Chicago.

Double-track, double-leaf 275-foot span Scherzer for C. T. T. Railroad Co. at entrance to Grand Central Station, Chicago, the longest span bascule bridge ever built.

One single-track and one double-track for the Big Four Railroad at Cleveland. This was erected in its open position, and when completed was closed and placed into service without delaying or diverting traffic.

The first double-track Scherzer for the Central Railroad of New Jersey was placed into service several months ago, and the second is now being constructed.

The four-track Scherzer constructed at Bridgeport, Conn., for N. Y., N. H. & H. Railroad Co. was completed early this year. It is composed of two double-track bridges placed side by side and operated singly or jointly, as desired.

Somewhat similar four-track Scherzer bridges are being constructed for the same company at Cos Cob and Westport, Conn., and detail plans are being prepared for a four-track Scherzer to span the navigable channel of the Housatonic river. These new bridges replace and supersede double-track swing bridges, and form a part of the very extensive improvements of the railway company named.

A notable Scherzer now near completion is being built for the Newburgh & South Shore Railway across the Cuyahoga river at Cleveland. It is a double-track, single-leaf structure, having a span of 100 feet from center to center of bearings, making it the longest single-leaf bridge of this type yet constructed. It is designed to carry the heaviest railroad traffic and furnishes a clear channel wide enough for the rapid passage of the largest modern lake vessels.

More than 50 other Scherzer Rolling Lift Bridges have been constructed and are in process of construction in various parts of the world for railroad, street railway and highway traffic, many of the highway bridges being of especially large span, ranging from 170 to 216 feet clear.

Among the Scherzer bridges being constructed in Europe are a combined railroad and highway bridge for Southeastern & Chatham Railway across Swale river,

England, and a railroad bridge for Fishguard & Rossllare Railways & Harbours Co. across Suir river, Ireland. (Detail plans for these bridges were furnished to Sir Benjamin Baker, the distinguished engineer of the great Forth Bridge, Scotland.) A three-track railroad bridge for the Dutch State Railways across the Spaarne river at Harlem, Holland, and a very long and wide highway bridge across the Eka-terinhofka river, St. Petersburg, Russia. This bridge forms the beginning of very extensive internal harbor improvements under way for the city of St. Petersburg.

## "Imperial" Portable Watchman's Time Detector.

Two accompanying illustrations show the "Imperial" Portable Watchman's Time Detector, which eliminates some objectionable features in previous clocks and is approved by the National Fire Protective Association for use under the rules and requirements of the National Board of Fire Underwriters covering portable watchman's clocks. In order to get the best results for outside stations, such as railroad and lumber yards, mines and factories that are not enclosed, chemical works and packing-houses and other places that are damp and destructive to the general welfare of wires and the connections



"IMPERIAL" PORTABLE WATCHMAN'S TIME DETECTOR.

at the stations, as well as the stations themselves, a portable watchman's clock must be resorted to.

While the "Imperial" watch is particularly adapted for just such plants as enumerated, it naturally follows that it would give just as good service in every other institution that requires watchman's clocks. The record is compact and always accurate.

There is no possible way to tamper with this instrument, and although there is employed a marking device to register the opening and closing of the watch, the watchman will not be able to beat it, even though he had the clock opened, because



STATION BOX AND KEY OF PORTABLE WATCHMAN'S TIME DETECTOR.

he would be compelled to visit the stations to insert the keys in order to impress the character of each station upon the dial, and as the key cannot be duplicated, because each one is of a special style and form which cannot be purchased except through this office, and each one having an engraved character thereon which must be accurate in order to fit the matrix within the watch, it will be impossible to make the records except by going to the stations as many times as is laid out to the watchman by the employer. One of the accompanying illustrations shows the watchman's dial with watchman's records at six stations on the 7-o'clock round; the dial

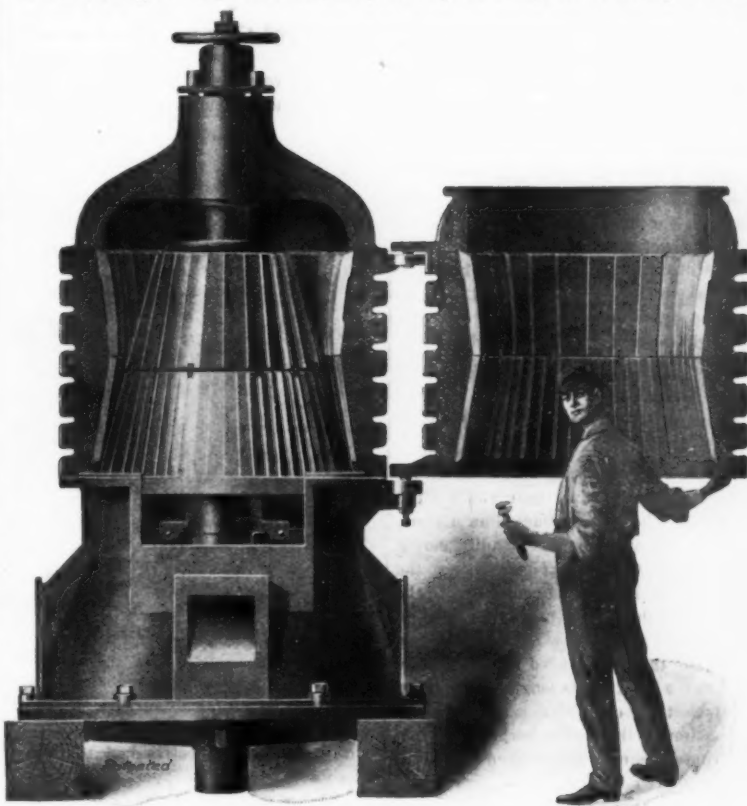
revolves to the left; also shows pricking device which registers when the watch is opened, and the keyhole for entrance of watchman's keys. The watch is sold complete with keys, leather pouch and strap, iron station boxes, seals and one lot of paper dials for one year.

Each key is fastened in the little iron station box with a safety chain, the farther end of which is hidden and cannot be taken apart without breaking the seals that hold the station boxes to their fastenings.

In brief, the advantages to be gained by the use of an "Imperial" watch are as follows:

1. In order to duplicate the keys, a die for stamping out the key and a set of dies for making the characteristics of the key and matrix must be used, and these keys cannot be purchased without application to us by the proper authorities. The marking mechanism is on the key. The key, when inserted into watch, runs through a small aperture, in which it fits closely at 1 moves only in one direction.

2. The turning of a key sends the male



OPEN-DOOR ROTARY CRUSHER.

character which is on the key into the paper dial, which is pressed into the female or matrix, and thus embosses the same into the paper, which character denotes the time that he has visited the station.

3. The movement is separated from the marking mechanism and the dust band is fastened very tightly about the movement to prevent dirt and dust from getting into same.

4. The watch is carried in a leather pouch which protects it from hard usage.

5. The iron station boxes, sealed at the stations, prevent the watchman from tampering with watch by carrying the keys to some convenient point and registering without making his rounds.

6. The embossing of a number or character upon the dial is far better than the pricking of a hole in same.

The "Imperial" is made by Messrs. Nanz & Co., 127 Duane street, New York city.

The National Association of Agricultural Implement and Vehicle Manufacturers will meet at Chattanooga, Tenn., November 16, 17 and 18.

## Open-Door Rotary Crusher.

A new rotary crusher is now being manufactured. Its ingenious and practical design will interest all crushers of materials of moderate hardness. It is called the Open-Door Rotary Fine Crusher, and its massive door, swinging wide as easily as the great door of a large safe, exposes all its wearing parts to quick inspection and removal. It is obvious that railway links, coupling pins and all sorts of uncrushable materials that get into this class of machines and are so difficult to get out may in this machine be removed in short order.

Also the heaviest wearing parts, although massive, are small enough to be lifted out by hand, obviating the necessity of the hoisting appliances in common use. These crushers are large, and yet far more convenient than others of even small size.

Rotary crushers are the greatest producers known of finely-broken materials of moderate hardness. They have held their own against all comers, notwithstanding the frequent annoyance of having to dis-

mantle them completely to remove foreign material getting wedged among the crushing members, for they crush cheaply and crush fine, and are the least expensive in first cost and also in power. But for big works they could not heretofore be made large enough.

But this new open-door crusher is a very large machine, giving an unprecedented output of fine material, is strong, and in every part massive and safe.

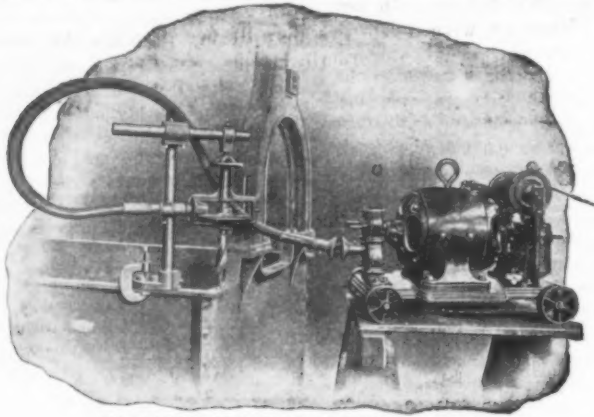
The vertical shaft carries only its own weight and that of the driving gear, and its foot runs in a large oil-pot bearing thoroughly protected from dust. The crushing cones are supported from the top by large ball-bearings, which greatly promotes easy running and durability. This cone may be raised or lowered by the screw at the top. The range of adjustments for wear or to size output is unusually large.

The scrapers require no change except replacement for wear, and are conveniently reached without dismantling the machine. The cast-steel bevel-pinion shaft is supported from the inner end, giving great strength to this important part. Discharges are from three sides. The door

bolts are removed from slots, a single turn of each nut allowing speedy removal. Thus the door may be opened as easily as the door of a steel safe, and swung en-

The details of the machine are arranged to suit the requirements of customers as regards voltage, size of the motor, etc.

The equipment is built by the Gem Man-



PORTABLE ELECTRIC DRILLING OUTFIT.

tirely out of the way, giving full access to the interior of the crusher. Removal of any part is therefore easy. The case is not weakened by the door, which, held by its bolts, is rigid and secure.

Having no fly-wheel, this crusher is not subject to breaking fly-wheel shocks in case of sudden stoppage. This danger is avoided, and yet the machine has abundant power for any work.

Every part of the open-door crusher is massive. The main shaft is seven feet in diameter and in every way reliable.

The new crusher is made by the Sturtevant Mill Co. of Boston, Mass., which has just issued 1905 Catalogue No. 12, showing and describing these rotary crushers and eight other types of rock crushers, also rolls, mills, screens, engines, boilers, etc.

#### Portable Electric Drilling Outfit.

An accompanying illustration shows a drilling outfit consisting primarily of an electric motor, flexible shaft and drilling head, with the motor mounted on a truck so that the outfit can be readily moved about. For the sake of convenience the cable or wire for making connection to the line for furnishing the power is wound on a reel, and this allows connection to be made and the outfit moved to any position within the limit of the length of the cable, as an electrical connection is made through the center of the reel in such a way that the contact is not broken when the reel is turned.

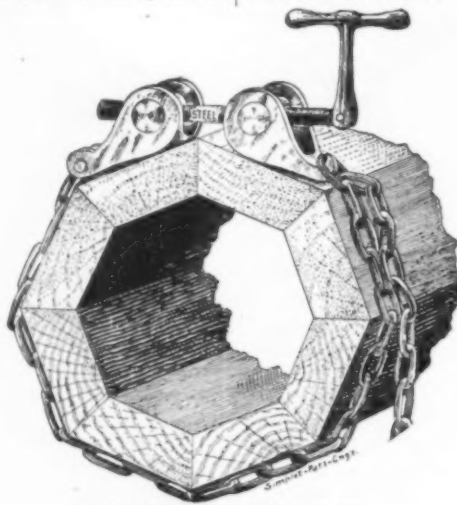
Such drilling devices as this are not entirely new, but with this equipment the maker has endeavored to overcome some of the objectionable features in previous attempts along this line, and the result is a stronger, more compact and more durable machine. One of the strong features of this outfit is the patent flexible shaft having sectional metallic core. These flexible shafts are exceptionally strong in proportion to the diameter and will stand much hard work.

As to the machines themselves and the work for which they are intended, it is readily understood that they are much more economical for drilling large castings, where only a few holes are required, than to move the castings to stationary drill presses. In a great many cases hand-drilling is all that can be resorted to, and where this is the case the portable drilling outfits make a great saving and allow material to be completed and gotten out of the way earlier than would be otherwise possible. The field for the drilling outfits is so wide that it takes in all manufacturers of heavy machinery. These drilling outfits are for the odd and occasional holes which it is inconvenient or expensive to do under a drill press owing to the size of the casting or the awkwardness of handling.

ufacturing Co., Spruce street, near 33d street, Pittsburg, Pa.

#### The Noxall Column Clamp.

The Noxall Column Clamp, illustrated herewith, has now been on the market about two years, and in that short time has won such popularity among column



THE NOXALL COLUMN CLAMP.

manufacturers, planing mills and furniture factories as far to surpass the most sanguine hopes of the inventor and maker of this simple but effective device. It has long since passed the experimental stage, in proof of which the sales of upward of 700 dozen, distributed among 300 of the best and most progressive manufacturers throughout the United States and Canada, should convince the most skeptical. With this device a man can glue and clamp an ordinary column in from four to six minutes.

The clamp is made with a right and left screw, giving a positive and equal strain at both ends of the chain and every point of contact. It consequently will not buckle the screw nor distort and twist the staves out of shape, but leaves the column perfectly round and true, an essential feature in columns.

It is also manifest that the double-thread screw will give twice the speed in operation. In other words, one turn of the screw will do the work of two on the single thread.

Another advantage is its lightness, being made entirely of the best refined malleable iron and steel, and equipped with a weldless steel wire chain makes it practically indestructible. No unnecessary weight or metal is put in the Noxall to add to the cost and make it awkward and clumsy to handle. The tool is intended to clamp columns from six inches in diameter up to any size, the capacity being limited only by the length of the chain.

A six-inch shaft is probably as small as anyone desires to build up from staves. However, it has been demonstrated that stock as small as four inches in diameter has been successfully clamped.

Stock clamps are furnished with four feet of chain to take columns 16 inches and under, which is considered sufficient for all ordinary work.

For larger shafts longer chains are required, according to the size of the body to be clamped.

For further particulars address the manufacturer, A. A. Loetscher, Dubuque, Iowa.

#### W. B. Friction-Clutch Pulleys.

Users of pulleys are asked to direct their attention to the accompanying illustration of the W. B. Friction-Clutch Pulley and Cut-off Couplings. This pulley is easy of application to shaft, which is done without keys or setscrews, thus avoiding the cutting of keyways, which often cause the shaft to become crooked and the pulleys to run badly and the bearings to get warm, increasing friction and loss of power.

The hub has a long bearing on the shaft, standard taper on outside and one or more slots which allow same to compress

made a part of the pulley. Note that there is only one adjustment to take up the wear. There is made a rigid shaft coupling on the same principles, to be used without keys or setscrews. All parts are interchangeable, of good material and workmanship. A special clutch for gas engines is also offered. It is now giving great satisfaction to users. These specialties are the product of the Weller Engineering Co. of Elyria, Ohio.

#### The Roofing Problem.

There are today in the United States literally thousands of acres of buildings for manufacturing, commercial and transportation purposes covered with standard felt, pitch and slag or gravel roofing. The business of preparing the materials and applying them to the roofs has reached its present large proportions solely on the strength of results achieved.

There are innumerable examples of roofs in various parts of the country demonstrating, by a life up to this time of 25 years or upwards, that with proper workmanship in applying the materials the greatest economy is obtained.

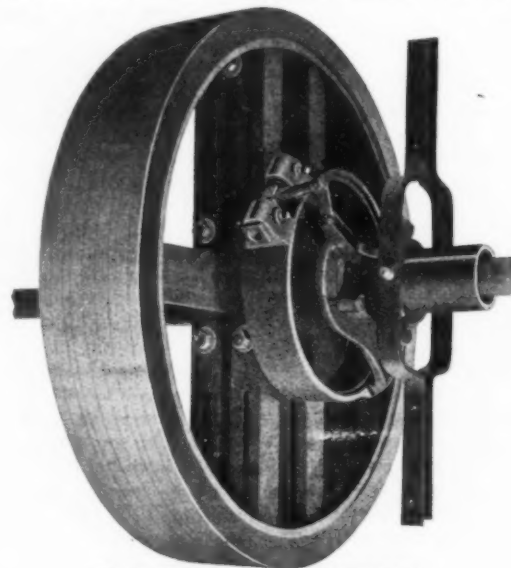
The special adaptation for mills, chemical works, foundries, roundhouses and all railway work is fully recognized, owing to the fact that it is totally unaffected by moisture, gases and acid fumes so fatal to metal.

This is history, not theory, and the use of coal-tar materials for roofing and waterproofing purposes is as standard in one form of construction as is Portland cement in masonry.

For a satisfactory roof the cost per year of service is what the owner, architect or engineer should keep in mind.

The application of slag and gravel roofing and coal-tar pitch waterproofing is now a regular trade in itself, like carpentry, bricklaying, slating or metal-roofing. There are many individuals, firms and corporations engaged in the business as contractors to lay this class of work, and it is customary in this trade to guarantee a roof constructed in accordance with this specification for a term of years, usually 10. Yet this period of time seldom fails to be greatly exceeded by the life of such a roofing.

The much-discussed subject of roofing is one that is especially of interest to architects, engineers and owners of buildings. It is given full attention in a publication entitled "The Barrett Specifica-



W. B. FRICTION CLUTCH PULLEY.

secures perfect alignment of the ends of the shafting.

The hub on which the pulley is secured is made standard size to take any make of wood or iron pulleys, or clutch may be

tion," issued to treat of the various kinds of roofing, their advantages and limitations, etc. A copy can be obtained from the Barrett Manufacturing Co., New York office at 17 Battery Place.



# Construction Department

## TO OUR READERS!

In order to understand and follow up properly the Construction Department items, please bear in mind the following statements:

### EXPLANATORY.

The MANUFACTURERS' RECORD seeks to verify every item reported in its Construction Department by a full investigation and complete correspondence with everyone interested. But it is often impossible to do this before the item must be printed, or else lose its value as news. In such cases the statements are always made as "rumored" or "reported," and not as positive items of news. If our readers will note these points they will see the necessity of the discrimination, and they will avoid accepting as a certainty matters that we explicitly state are "reports" or "rumors" only. We are always glad to have our attention called to any errors that may occur.

\* Means machinery, proposals or supplies are wanted, particulars of which will be found under head of "Machinery, Proposals and Supplies Wanted."

In correspondence relating to matters reported in this paper, it will be of advantage to all concerned if it is stated that the information was gained from the MANUFACTURERS' RECORD.

### ADDRESS FULLY.

To insure prompt delivery of communications about items reported in these columns, the name of one or more incorporators of a newly incorporated enterprise should be shown on the letter addressed to that town, or to the town of the individual sought, as may be shown in the item, as sometimes a communication merely addressed in the corporate or official name of a newly established company or enterprise cannot be delivered by the postmaster. This will help to insure prompt delivery of your communication, although it is inevitable that some failures on the part of the postal authorities to deliver mail to new concerns will occur.

### WRITE DIRECTLY.

It is suggested to advertisers and readers that in communicating with individuals and firms reported in these columns, a letter written specifically about the matter reported is likely to receive quicker and surer attention than a mere circular.

## BALTIMORE BUILDING NOTES.

### Business Buildings.

**Baltimore—Hotel.**—Sylvester Stokes, Hotel York, New York, has purchased the property located northeast corner of Baltimore and Hanover streets and has awarded contract to Charles Gilpin, builder, 21 East Saratoga street, for the construction of hotel to be located on the site, after plans and specifications by architect, whose name is withheld for the present. Structure to be eight stories high with basement, 68x155 feet; brick with stone and terra-cotta trimmings; concrete foundation; steel-frame fireproof construction; slag roofing; electric wiring and fixtures; sanitary plumbing; steam-heating system; two electric elevators. Hotel will have about 400 rooms, half of which will be equipped with baths; cost of building about \$450,000, site \$150,000.

**Baltimore—Store Building.**—Further details have been obtained concerning store building for Dr. Jacob H. Hartman, 5 West Franklin street, to be located at 29 East Baltimore street, after plans and specifications by Wm. J. Beardsley, architect, 28 West Lexington street. Structure to be two stories high with basement, 12x75.10 feet; Roman brick with terra-cotta and galvanized-iron trimmings; concrete foundation; steel beams; cast-iron columns; slag roofing; galvanized-iron cornice and skylights; prismatic glass; fire shutters; electric wiring and fixtures; sanitary plumbing; steam-heating system. Heating system not included in contract. Evans & Marshall, 411 St. Paul street; J. H. Walsh & Bro., 406 South Charles street; C. S. M. Williamson, 20 East Lexington street; B. W. & E. Minor, 20 Clay street; Henry S. Rippel, 7 Clay street; George Bunneke & Sons, 305 St. Paul street; John T. Buckley, 916 Bolton street; J. W. Lyons, 590 Laurens street; R. H. Ford & Co., 407 St. Paul street; Frederick Decker & Son, 1209 East Biddle street, have been selected to estimate on the construction. Bids to be in about October 25.

**Baltimore—Warehouses.**—Wm. Depkin, 436 Light street, has awarded contract to Henry

S. Rippel, builder, 7 Clay street, for the construction of two warehouses to be located at southeast corner Mercer and Grant streets. Structures to be four stories high with basements, 40.2x42 feet; brick with granite base and stone trimmings; concrete foundation; steel beams; cast-iron columns; slag roofing; galvanized-iron cornices; steel ceiling; vault lights; gas fixtures; sanitary plumbing; hand elevator. These buildings previously mentioned.

**Baltimore—Bank Building.**—Plans and specifications have been distributed from the office of Worthington & Ahrens, architects, 8 East Lexington street, for preliminary estimates on the construction of bank building for First National Bank, Saratoga and Sharp streets, to be located at 17 South street, after plans by T. Henry Randall, architect, The Tower, Madison Square, New York. Structure to be one story high with basement, 37x145 feet; white terra-cotta exterior; concrete foundation; steel beams; interior marble work; electric wiring and fixtures; sanitary plumbing; steam-heating system; fireproof vaults; copper skylights; fireproof throughout. A. J. Robinson Company, 30 West Franklin street; B. F. Bennett, 123 South Howard street; Wm. Ferguson & Bro., 214 Clay street; George A. Blake, 129 East Lexington street, and George A. Fuller Company, 203 North street, have been selected to bid on the work. Bids to be in October 15.

**Baltimore—Office Building.**—Wm. G. Speed, 114 South Eutaw street, has commissioned Charles E. Cassell & Son, architects, 411 North Charles street, to prepare plans and specifications for office building to be located on Courtland street, near Lexington street. Structure to be 10 stories high, 65.6x160 feet; brick with terra-cotta trimmings; concrete foundation; steel-frame fireproof construction; electric wiring and fixtures; sanitary plumbing; steam-heating system; four elevators. It is reported that the builder has been selected. This building previously mentioned.

**Baltimore—Stable.**—Isaac Peddicord & Son, 579 Greenmount avenue, have purchased the property located at 1023 West Saratoga street and will erect a large stable on the site.

**Baltimore—Warehouses.**—Further details have been obtained concerning two warehouses for Wm. Lanahan & Son, 205 West Camden street, to be located at 20, 22 and 24 Light street, after plans and specifications by Simonson & Pietsch, architects, 302 East Lexington street. Structures to be six stories high with basements, 86x107 feet; granite to third story; brick with ornamental terra-cotta or Indiana limestone or sandstone trimmings; concrete foundation; steel-frame construction fireproofed with concrete; reinforced concrete floors and roof; slag roofing; marble floors; ornamental cast-iron work; granolithic pavement; galvanized-iron skylight; electric wiring and fixtures; sanitary plumbing; steam-heating system; metal frames and sashes glazed with wireglass or fire shutters; alternate bid on reinforced concrete construction; alternate bid on mill construction. Elevators, electric wiring and fixtures and heating apparatus not included in contract. George A. Fuller Company, 203 North street; Edward D. Preston, 140 West Fayette street; Henry Smith & Sons Company, 116 South Regester street; J. J. Walsh & Son, 1525 Maryland avenue; Wm. Steele & Sons, 17 West Saratoga street; Charles McCall Company, 123 West Saratoga street; Cramp & Co., 407 St. Paul street; Morrow Bros., 212 Clay street; Richardson & Burgess, Inc., 1005 Linden avenue; W. E. Speir, Bolton and Biddle streets; Tattersone & Thuman, 214 North Liberty street; James Stewart & Co., 319 North Charles street; Burnham & Wells, Builders' Exchange Building, 2 East Lexington street; Murphy Construction Co., 202 West Fayette street, and Wells Bros. Company, 341 North Charles street, have been selected to estimate on the construction. Bids are to be in October 28.

**Baltimore—Warehouse.**—Eugene Levering, 28 West Lexington street, will erect warehouse to be located at 102 Commerce street, after plans and specifications by E. H. Gilden, architect, 301 North Charles street. Structure to be three stories high with basement, 33.7x64.10 feet; brick with granite base and limestone trimmings; concrete foundation; steel beams; slag roofing; galvanized-iron cornice; metal frames and sashes glazed with wireglass; prismatic glass; vault lights; vault door; electric wiring and fixtures; sanitary plumbing. Plans will not be sent out for estimates on construction.

**Baltimore—Dwellings.**—Frank Novak,

builder, 500 North Duncan street, will erect for himself 17 dwellings to be located on Madeira street, near Ashland avenue. Structures to be two stories high with basement, 12.4x40 feet; brick with stone trimmings; tin roofing; galvanized-iron cornices; sanitary plumbing; gas fixtures; cost to be about \$12,000.

**Baltimore—Office Building and Warehouse.** Edward H. Wise, 126 West Fayette street, has awarded contract to James Stewart & Co., builders, 319 North Charles street, for the construction of office building and warehouse to be located at 110 West Fayette street, after plans and specifications by Taylor & Knowles, architects, 11½ East Pleasant street. Structure to be seven stories high with basement, 26x90 feet; Indiana limestone exterior; concrete foundation; steel-frame construction fireproofed with concrete; reinforced concrete floors and roof; slag roofing; fire-escape; cast-iron stairway; granolithic pavement; interior marble work; metal frames and sashes glazed with wireglass; galvanized-iron skylight; fireproof throughout; electric wiring and fixtures; sanitary plumbing; steam-heating system; power elevator. Light fixtures and elevator not included in contract. This building previously mentioned.

**Baltimore—Business College.**—Warren H. Sadler, president of Sadler's Bryant & Stratton Business College, 715 North Eutaw street, who was recently reported in this column as purchasing the property located at 803 and 805 Hamilton Terrace and erecting business college on the site, which is 60x140 feet, has commissioned Charles E. Cassell & Son, architects, 411 North Charles street, to prepare the plans and specifications for the building.

**Baltimore—Dwellings.**—Isaac N. Cooper, Forrest Park, will erect for himself 12 dwellings to be located on Port street, near Jefferson street. Structures to be two stories high with basements, 12x40 feet; brick with stone trimmings; tin roofing; galvanized-iron cornices; gas fixtures; sanitary plumbing; cost to be about \$7200.

**Baltimore—Warehouse.**—Further details have been obtained concerning warehouse for J. D. Groves & Co., 25 East Conway street, to be erected at 117 South Calvert street, after plans and specifications by Herbert G. Crisp, architect, Builders' Exchange Building, 2 East Lexington street. Structure to be four stories high with basement, 30x30 feet; brick with granite base and terra-cotta trimmings; concrete foundation on piling; steel beams and girders; cast-iron columns; slag roofing; galvanized-iron cornice and skylight; granolithic pavement; electric wiring and fixtures; sanitary plumbing; steam-heating system; power elevator. Elevator, electric wiring and heating apparatus not included in contract. John S. Moke, 16 Clay street; Albinus Schuck, 3300 East Baltimore street; M. Luther Wright, 324 West Biddle street; Charles Milske, 241 North Patterson Park avenue; Henry S. Rippel, 7 Clay street, and Burnham & Wells, Builders' Exchange Building, 2 East Lexington street, have been selected to estimate on the construction. Bids to be in October 22.

**Baltimore—Railroad Station.**—Plans and specifications covering the construction of a new union station for the Pennsylvania Railroad Co., Calvert and Center streets, have been completed by the company's architects and engineers. The plans also include the construction of a new train shed.

**Baltimore—Store Building.**—Frederick W. Timmermann has awarded contract to Henry S. Rippel, builder, 7 Clay street, for the construction of store building to be located at 617 East Lombard street after plans and specifications by Albert S. Watts, Pikesville, Md. Structure to be three stories high, 25x90 feet; brick with stone trimmings; concrete foundation; steel beams; slag roofing; galvanized-iron cornice; gas fixtures; sanitary plumbing.

**Baltimore—Warehouses.**—Revised plans and specifications have been sent out by Wyatt & Nolting and George N. Mackenzie, 3d, associated architects, Builders' Exchange Building, 2 East Lexington street, for the three four-story warehouses to be located at 22, 24 and 26 South Charles street for George N. Mackenzie, Hofman Allan and John S. Bridges, Henry S. Rippel, 7 Clay street; McIver & Piel, Builders' Exchange Building, 2 East Lexington street; Brady & Watters, 532 St. Paul street, and C. S. Williamson, 20 E. Lexington street, have been selected to estimate on the construction. Bids to be in October 20.

**Baltimore—Dwelling.**—Dr. J. Hall Pleasants, 1119 North Charles street, will erect dwelling to be located on Chase street, near Charles street, after plans and specifications by Wyatt & Nolting, architects, Builders' Exchange Building, 2 East Lexington street. Structure to be four stories high with basement, 41x64.1 feet; brick with granite base and ornamental terra-cotta and Indiana limestone trimmings; concrete foundation; steel beams; slate and slag roofing; galvanized-iron skylight; electric wiring and fixtures; sanitary plumbing; steam-heating system; hand elevator. Heating, plumbing, electric work, lighting fixtures, grading, papering, standing finish in parlor, library and dining-room not included in contract. John Cowan, 106 West Madison street; Morrow Bros., 212 Clay street; John Hiltz & Son, 3 Clay street; Brady & Watters, 532 St. Paul street, and Edward D. Preston, 140 West Fayette street, have been selected to estimate on the construction. Date for submitting estimates not selected.

**Baltimore—Dwellings.**—Mary Locke will erect 12 dwellings to be located on Riggs avenue, near Payson street, after plans and specifications by Jacob F. Gerwig, architect, 16 Clay street. Structures to be two stories high; brick with stone trimmings; tin roofing; galvanized-iron cornices; gas fixtures; sanitary plumbing; cost to be about \$12,000.

**Baltimore—Store and Office Building.**—Randolph Barton, 297 North Calvert street, as trustee for Mrs. Wm. R. Miller and daughters and Charles W. Linthicum, has awarded contract to Brady & Watters, builders, 532 St. Paul street, for the construction of store and office building to be located at northeast corner Baltimore and Holliday streets after plans and specifications by Wyatt & Nolting, architects, Builders' Exchange Building, 2 East Lexington street. Structure to be three stories high with basement, 30x106.6 feet; brick with granite base and ornamental terra-cotta trimmings; concrete foundation; steel beams and girders; cast-iron columns; slag roofing; vault lights; galvanized-iron cornice and marquis; electric wiring and fixtures; sanitary plumbing; steam-heating system. This building previously mentioned.

**Baltimore—Dwellings.**—C. B. Burdette, builder, 1812 West Lexington street, has purchased property located on Maryland avenue, near 26th street, and will erect on the site 10 dwelling-houses. Structures to be three stories high, 15x50 feet; brick with marble trimmings; tin roofing; galvanized-iron cornices; gas fixtures; sanitary plumbing; heating systems.

**Baltimore—Church.**—St. Peter's Evangelical Lutheran Church, C. B. Godhes, pastor, 112 South Washington street, has awarded contract to McIver & Piel, builders, Builders' Exchange Building, 2 East Lexington street, for the construction of its church building to be located on North avenue, near Hope street, after plans and specifications by Torrey & Leach, architects, 325 St. Paul street. Structure to be one story high, 59x57 feet; gray and brown brick with Indiana limestone trimmings; concrete foundations; tin roofing; electric wiring and fixtures; sanitary plumbing; steam-heating system. Plumbing, gas and heating systems not included in contract. This building previously mentioned.

**Baltimore—Department Store.**—Bernheimer Bros., 311 West Lexington street, have purchased the lots at 311 and 313 West Lexington street, which they occupy, and are contemplating the erection of three additional stories to the present building.

**Baltimore—Warehouse.**—The Johns Hopkins Hospital Trust Estate, 211 North Charles street, has commissioned the Century Architectural & Engineering Co., architect and engineer, 114 East Lexington street, to prepare plans and specifications for warehouse to be located on Lombard, Grant, Elliott and Water streets. Structure to be six stories high, 46x135 feet; brick with terra-cotta trimmings; concrete foundation; mill or reinforced-concrete construction; slag roofing; electric wiring and fixtures; sanitary plumbing; steam-heating system; power elevators.

**Baltimore—Store Building.**—Further details have been obtained concerning store building to be erected at northwest corner Centre Market Space and Water street for J. Appleton Wilson, architect, 303 Courtland street, after plans and specifications by himself. Structure to be three stories high, 34x59 feet; brick with stone trimmings; concrete foundation; steel beams; cast-iron columns; tin roofing; galvanized-iron cornice;

electric wiring and fixtures; sanitary plumbing; steam-heating system. George A. Blake, 120 East Lexington street; George Bunnecke & Sons, 305 Courtland street; Frederick Decker & Son, 1209 East Biddle street; M. Luther Wright, 324 West Biddle street, and John Hillis & Son, 3 Clay street, have been selected to estimate on the construction. Bids to be in October 21.

Baltimore—Dwellings.—Stephen P. Harwood, 227 St. Paul street, will erect 17 dwellings to be located on site, 102x104 feet, at northwest corner 2d and Dillon streets, Highlandtown. Structures to be two stories high with basements; brick with stone trimmings; tin roofing; sanitary plumbing; gas fixtures; cost to be about \$12,000.

Baltimore—Store Buildings.—It is reported that Isidor Tweles, 227 North Eutaw street, has purchased the property located at 215, 216, 217 and 219 North Eutaw street. The site, which is 57x60 feet, is improved with three store buildings.

Baltimore—Store Building.—L. & M. Corbett, Irvington, have awarded contract to J. J. O'Connor, builder, 5 Lloyd street, for the construction of store building to be located at 410 East Pratt street after plans and specifications by John J. Zink, architect, 639 South Patterson park avenue. Structure to be two stories high, 17x80 feet; brick with stone trimmings; concrete foundation; steel beams; tin roofing; galvanized-iron cornice; gas fixtures; sanitary plumbing; furnace-heating system; cost to be about \$4000.

Baltimore—Manufacturing Building.—The Calvert Building & Construction Co., Calvert Building, Fayette and St. Paul streets, has awarded contract to Norcross Bros. Company, builder, Equitable Building, Calvert and Fayette streets, for the construction of light-manufacturing building to be located in the rear of the Equitable Building after plans and specifications by Sperry, York & Sawyer, architects, Builders' Exchange Building, 2 East Lexington street. Structure to be five stories high, with basement, 27x53 feet; brick with stone trimmings; concrete foundation; steel-frame fireproof construction; slag roofing; electric wiring and fixtures; sanitary plumbing.

Baltimore—Gallery.—The Fifth Regiment, Maryland National Guard, Bolton and Hoffman streets, will erect a gallery, 14x300 feet, in its armory after plans and specifications by Wyatt & Nolting, architects, Builders' Exchange Building, 2 East Lexington street. Bartlett, Hayward & Co., 301 North Charles street; Murphy Construction Co., 202 West Fayette street; E. D. Preston, 140 West Fayette street; Morrow Bros., 212 Clay street, and Tattersall & Thuman, 214 North Liberty street, have been selected to estimate on the construction. Bids to be in October 25.

Baltimore—Warehouses.—G. Gump & Sons, wholesale liquor dealers, 2400 Frederick avenue, have purchased the property located at 430 and 432 East Pratt street and 118 South Gay street, and will erect on the sites warehouses after plans and specifications by Louis Levi, architect, Central Savings Bank Building, 3 East Lexington street. Structures to be four stories high, one 27x48 feet and the other 25x83 feet; brick with stone trimmings; concrete foundation; steel beams; tin or slag roofing; galvanized-iron cornices; electric wiring and fixtures; sanitary plumbing; power elevators.

#### Manufacturing Buildings and Other Enterprises.

Baltimore—Manufacturing Plant.—Walter M. Krager, Builders' Exchange Building, 2 East Lexington street, is corresponding with a manufacturing concern of Camden, N. J., which is desirous of locating its plant in Baltimore.

Baltimore—Artificial-marble Plant.—The Kamberger-Zwick Marble Co. has been incorporated, with an authorized capital stock of \$500, for manufacturing artificial marble, by Otto Kamberger, 202 North Greene street; Alfons Zwick, Conrad Rippman, 1028 Ridgely street; Annie Laux and Emma A. Heck.

Baltimore—Fertilizer Plant.—The Baugh Chemical Co., Hoen Building, 302 East Lexington street, has awarded contract to Sanford & Brooks, contractors, 28 East Mt. Vernon place, for the construction of trestle for the discharge and loading of vessels. Structure to be 350 feet long and 31 feet high, with two towers each 40 feet, and will be equipped with electric railway. The company has also had plans prepared for a trussed framed building, 510 feet long, for burning and mixing materials used in the manufacture of fertilizer.

#### Subbids Wanted.

Mention of contractors wanting subbids on construction work and material will be found, when published, in the "Machinery Wanted" column on another page under the heading of "Building Equipment and Supplies."

#### ALABAMA.

Birmingham—Candy Factory.—Monarch Candy Manufacturing Co., previously reported incorporated with \$15,000 capital, contemplates purchasing site and erecting four-story factory building; present output 10,000 pounds of candy per day.

Birmingham—Timber Lands.—Yellow Pine Lands Co. has been incorporated, with \$50,000 capital, by John M. Caldwell of Birmingham, W. P. Monroe, J. P. Lewis of Valdosta, Ga.; J. R. Saunders of Pensacola, Fla., and associates.

Bridgeport—Saw-mill.—Rice & Riggsbee have removed their hardwood dimension saw-mill from Sequatchie, Tenn., to Bridgeport.

Cowarts—Timber-land Development.—It is reported that Charles E. Daniel, W. H. Bunell, Hayden Evans and George Schwarz, all of Scranton, Pa., have purchased 5000 acres of timber land, and will organize company for its development.

Fairhope—Improvement Company.—Fairhope Improvement Co. has been incorporated, with \$25,000 capital, by George M. Bancroft, Frank L. Brown, E. R. Gaston and associates.

Geneva—Cotton Mill.—It is proposed to organize a company for the establishment of a cotton mill. W. W. Barnett, D. O. Vaughn, D. L. Watson and others are interested.

Huntsville—Ice Factory.—Huntsville Ice & Coal Co. is having plans prepared by Cowell & Love for addition to ice factory; capacity will be increased.

Jasper—Sewerage System.—The city council has ordered an election to be held November 14 for the purpose of voting \$15,000 of bonds to construct sanitary sewerage system. Address Mayor Cranford.

Montgomery—Electric-light Plant, Ice Factory and Water-works.—D. P. West has purchased site at Bibb and Moulton streets on which to erect 1200-light electric-light plant, 10-ton ice plant and water-works.

Talladega—Flour Mill.—Talladega Mill Manufacturing Co. is remodeling flour mills and increasing capacity to 2500 bushels per day. It is stated the company contemplates adding 50-barrel flour mill next year.

York—Cotton Gin.—C. B. Hightower, J. J. Williams, J. H. Coleman and others have incorporated the York Cotton Gin Co., with a capital of \$3000.

#### ARKANSAS.

Clarksville—Zinc-mining.—Spears Realty Co., reported incorporated last week, will develop 800 acres of zinc deposits in Northwest Arkansas and will install concentrating plant. About \$100,000 will be invested.

Dardanelle—Cotton Mill.—R. C. Bullock and C. B. Cotton have sold the Dardanelle Cotton Mills to New York and Texas manufacturers, who will remodel the plant and operate it; present equipment is 3000 spindles (ring).

Fayetteville—Real Estate.—A. F. Wolf, Byron M. Johnson and others have incorporated the Price Lot & Land Co., with \$50,000 capital.

Fort Smith—Coal Mining.—Arkansas Black Diamond Coal Co. has been organized, with J. N. Brown, president; W. J. Echols, vice-president; Lovick P. Miles, secretary, and Ed Matlock, treasurer, for the development of 15,000 acres of coal lands in Johnson and Franklin counties; capital \$100,000.

Green Forest—Cold-storage, Ice and Electric-light Plant.—Reports state that F. O. Butt of Eureka Springs, Ark., contemplates erecting cold-storage, ice and electric-light plant.

Hazen—Telephone System, Electric-light Plant.—Hazen Electric Light & Telephone Co. has been granted franchise, previously reported as having been applied for, to construct and operate telephone system, install electric-light plant, etc.

Jonesboro—Vehicle Works.—Incorporated: Jonesboro Blacksmith Co., by Thomas Burgess, W. S. Stroud, H. A. Stroud and others, with \$6000 capital, to manufacture wagons, carriages, trucks, etc.

Little Rock—Real Estate.—Plateau Land Co. has been incorporated by A. B. Poe, Maxwell Coffin and C. P. Harnwell, with \$7300 capital.

Mansfield—Flour Mill.—Mansfield Roller Mill Co. has incorporated, with \$6000 capital, to operate flour mill; incorporators, F. M. Bottoms, J. W. Harper, W. B. Sexton, W. L. Seamon and associates.

Morrilton—Water-works.—Jacob Baer of Kansas City, Mo., contemplates establishing water-works.

Oil Trough—Mercantile.—Oil Trough Mercantile Co. has incorporated with \$6000 capital. W. P. Johns is president; J. C. Mc-

Guire, vice-president; J. T. Bracey, secretary, and C. W. Wasson, treasurer.

Pine Bluff—Water-works.—City is considering the proposition of municipal ownership of water-works. Address The Mayor.

Searcy—Cotton Mill.—It is proposed to organize a company with capital stock of \$200,000 for the purpose of building a cotton mill. Endeavors are being made to interest outside capital. J. L. Graham can give information.

Texarkana—Sewerage.—City has engaged J. E. Daugherty of Texarkana, Texas, to prepare plans for proposed sewerage system.

#### FLORIDA.

Braidentown—Steamship Line.—J. J. Fogarty, B. W. Fogarty and George Prime have organized a company to build and operate steamers in Florida waters.

Chaires—Cotton Ginnery.—J. H. Patterson will rebuild in February his cotton ginnery recently destroyed by fire. From \$3000 to \$5000 will be invested.

Ingls—Superphosphate Plant.—Barker Chemical Co., reported incorporated last month under Rockwell, Fla., with \$500,000 capital, has let contract to Peter S. Gilchrist of Charlotte, N. C., for the erection of plant which will have an annual capacity of 40,000 tons of superphosphates. Additional buildings for plant will be erected later. Company can be addressed at Ingls or care of Auchincloss Bros., 22 William street, New York, N. Y.

Jacksonville—Crosstie Manufacturing, etc. The Florida Crosstie & Machine Co. has been incorporated, with capital stock of \$200,000, for manufacturing crossties and for making and introducing new machinery for said manufacturing. J. M. Barra, B. F. Dillon and A. W. Barra are the incorporators.

Miami—Iron and Steel Bridge.—J. H. Tatum will construct iron and steel bridge over the Miami river.

#### GEORGIA.

Albany—Machine Shop.—Bacon & Collins Supply Co., Inc., will erect machine shop and equip with machinery at a cost of about \$20,000.

Albany—Paint Factory.—The Empire Paint Co. is erecting paint factory; daily output 1000 gallons.

Atlanta—Ice Factory.—Atlanta Ice & Coal Co. is increasing capacity of plant by the installation of 150-ton ice-making machine.

Camilla—Electric-light Plant and Water-works.—The city has voted the proposed issuance of bonds for \$7000 to build an electric-light plant and \$11,000 for constructing water-works system. Address The Mayor.

Clarksville—Electric-light and Water Plants.—The city will issue bonds for the construction of a system of water-works and the erection of an electric-light plant, and probably build one or two miles of modern streets. J. H. Hicks is mayor.

Cordele—Cottonseed-oil Mill.—Reports state that C. C. Greer will establish cottonseed-oil mill at a cost of \$75,000.

Monroe—Water-works and Electric-light Plant.—T. C. Blasigame, city clerk, states there is no truth in the report recently published that city contemplated constructing water-works and electric-light plant.

Newnan—Corn Mill.—T. G. Burpee, whose water-power mill was reported burned last week at a loss of \$2500, will rebuild corn mill.

Rome—Grist Mill.—J. J. Loeb of Atlanta, Ga., is erecting grist mill in East Rome, which will be operated by Wolfe, Cornwall & Co. Daily capacity will be 500 bushels of meal.

Rossville—Silver Mine.—Dr. W. H. Henderson, who recently discovered a six-foot vein of silver on his property, is sinking shaft for the development of the ore.

Senola—Grist Mill.—Reports state that Hensley & Couch have secured building, which will be equipped as grist mill.

Unadilla—Planing Mill.—J. A. & D. I. King will rebuild planing mill reported burned last week at a loss of \$50,000; mill to have a daily capacity of 25,000 feet.

#### KENTUCKY.

Barboursville—Water-works.—It is reported that local parties contemplate constructing water-works; supply to be obtained from the Cumberland river. Commercial Club can give information.

Clay City—Flour Mill.—Clay City Roller Mills Co. has been incorporated by W. R. Casidy, J. E. Burgher and J. F. McKennedy to erect and operate a flour mill. Plant will have a daily capacity of 75 barrels.

Corvinton—Iron Works.—The Stewart Iron Works will build an addition two stories high, 75x100 feet.

Ely (P. O. Flatlick)—Coal Mining.—Ingles Coal Co. has been incorporated, with Lewis Ingles, president; Ray Moss, vice-president; John Ingles, secretary, and Harvey Ingles, treasurer and general manager (all of Middlesborough, Ky.), for the development of coal properties near Ely.

Lexington—Commission Company.—Incorporated: National Produce Co., with \$10,000 capital, by C. B. Gilman of Lexington, S. Renaker of Cynthiana, Ky., and E. Renaker of Winchester, Ky.

Louisville—Novelty Works.—H. C. Atkinson, Benjamin B. Watts and W. W. Watts have incorporated the Louisville Novelty Manufacturing Co., with \$30,000 capital.

Louisville—Furniture and Storage Company.—Incorporated: Louisville Furniture & Storage Co., with \$1500 capital, by S. J. Buford, F. L. Standiford and J. T. Clifford.

Louisville—Vending-machine Company.—Henry M. Flexner, Louisville, Ky.; Claude A. Gunder, Bloomfield, Ind.; George H. Holzog, Jeffersonville, Ind., and associates have incorporated the American Vending Machine Co. with \$20,000 capital.

Louisville—Brewery.—West Louisville Brewing Co., reported incorporated last week, will erect three-story building 75x150 feet. Frank Schaeffer is engineer in charge.

Louisville—Amusement Enterprise.—Incorporated: The Southern Amusement Co., capitalized at \$20,000, by John D. Hopkins, Wm. G. Reichman, S. W. Hart and associates.

Paducah—Street Paving.—Nashville Roofing & Paving Co., Nashville, Tenn., has contract to pave four blocks with bitulithic paving, and if deemed satisfactory by the city, will be awarded further contracts for paving. About \$300,000 will be expended.

Paducah—Electric-light Plant.—H. H. Humphreys, St. Louis, Mo., is preparing plans for enlarging and improving electric-light plant, reported last month; Saunders Fowler, secretary Board of Public Works.

#### LOUISIANA.

De Quincey—Lumber Mill.—Midway Lumber Co. is arranging to rebuild lumber plant recently burned.

Lake Charles—Oil Wells.—The Fort Jessup Oil Co. has been incorporated, with a capital stock of \$120,000, to drill for oil; W. E. Niles, president; Jeff D. McClenny, vice-president; Joseph P. Towery, secretary.

New Iberia—Canal Construction.—C. F. Hoyt, Alexandria, La., has contract at \$61,000 for the construction of drainage canal from New Iberia to Bayou Carlin (previously reported), a distance of about 10 miles.

New Orleans—Flour Mill.—Charles E. Williams, proprietor Franklin Milling Co., Franklin, Ohio, has secured site on which to erect four-story mill building 50x104 feet at a cost of \$100,000. Capacity will be 500 barrels of flour or meal a day. An elevator will also be combined, with a capacity of 150,000 bushels.

Plaquemine—Barrel Factory.—It is rumored that a site has been secured and building will be erected and equipped for the manufacture of barrels, especially sugar and syrup barrels. Honore Dugas is promoting the enterprise.

St. Landry Parish—Timber Land.—Reports state that Isaac B. Hudson of Memphis, Tenn., representing Northern and Eastern capitalists, is negotiating for the purchase of 25,000 acres of timber land in St. Landry parish and vicinity.

#### MARYLAND.

Annapolis—Glass Factory.—Charles F. Koch has purchased the plant and equipment of the Maryland Glass Co. at Eastport for \$2300.

Berlin—Water-works.—City will vote on the issuance of \$15,000 of bonds for the construction of water-works previously reported. Orlando Harrison is mayor.

Brentwood—Brick Works.—Thomas R. Riley of Washington, D. C., reported last week as to establish brick works, will operate as the Highland Brick Co., and the plant will have a daily capacity of 30,000 bricks; office, 13th and Ohio avenue, Washington, D. C. E. Coates is engineer in charge.

Hagerstown—Store and Office Furniture, Showcases, etc.—Hagerstown Showcase & Store Furniture Co., reported incorporating last week with \$12,000 capital to manufacture showcases, office and store furniture, etc., has completed organization with Samuel B. Loose, president; Wm. H. Armstrong, vice-president; John Kyd Beckenbaugh, secretary-treasurer, and Daniel H. Bragunier, superintendent. A two-story brick factory building 42x34 feet is being erected which will be equipped with the most improved woodworking machinery, which has been purchased.\*



## MISSISSIPPI.

Canton—Ice Plant.—The Mississippi Company has definitely decided to add the 75-ton ice machine lately reported, but is not ready to consider propositions for the equipment.

Clarksdale—Cotton Compress.—Incorporated: People's Compress Co., with \$100,000 capital.

Corinth—Engine and Boiler Works.—Corinth Engine and Boiler Works, previously organized with J. E. Creary, president; T. H. Jones, vice-president; H. E. Walker, secretary; M. T. Bynum, treasurer, and W. B. Abbey, superintendent, has erected machine shop 75x175 feet, foundry 60x120 feet, pattern shop 25x50 feet, wareroom, office building, etc.; a boiler shop 70x150 feet will later be built. Electricity will be used as motive power.

Greenville—Brick Works.—John H. Houck of Grenada, Miss., will establish brick plant, reported last month as being arranged for by the Young Men's Business League.

Greenwood—Ice Factory, Cold-storage Plant and Bottling Works.—Wright Ice & Coal Co. has been organized, with \$75,000 capital, by Monroe McClurg, A. F. Gardner, C. E. Wright, T. B. Henderson and associates, to take over and operate the ice factory and bottling works of C. E. Wright. A cold-storage plant will also be added.

Harrison County—Timber Lands.—Edward Hines Lumber Co. of Chicago, Ill., has purchased 600,000 acres of pine timber lands in Harrison and Pearl River counties.

Hattiesburg—Hardwood Mill.—E. L. Thompson Land & Timber Co. is erecting hardwood mill on the Leaf river, which will have a daily capacity of about 60,000 feet of cypress, oak, ash, poplar and magnolia.

Holly Springs—Sewerage System, etc.—City has engaged Kirkpatrick & Johnson of Meridian, Miss., to supervise the construction of sewerage system, for which \$19,000 of bonds have been issued. Bonds to the amount of \$56,000 have also been authorized for other municipal improvements. Address The Mayor.

Ihrle—Stock Farm.—H. R. Ihrle will improve 200 acres of land as stock farm, erecting milking barn 34x134 feet, two silos, creamery, refrigerating rooms, granary, cattle barns, poultry houses, water-works from which the water will be piped to different parts of the farm, etc. A trolley line will also be built from barn to creamery. About \$30,000 will be invested. Architect Burt of Meridian, Miss., is in charge. Mr. Ihrle was previously reported as having purchased tract of land for this purpose.

Jackson—Wagon Factory.—George W. Snyder of Blymer, Mo., contemplates establishing wagon factory to have a yearly capacity of 1000 wagons.

Jackson—Lumber Plant.—It is reported that S. G. Mayfield of Denmark, S. C., is negotiating for the purchase of from 5000 to 40,000 acres of land, and will erect lumber plant.

Jackson—Brick Works.—It is reported that J. L. Holcomb of Jennings, La., is in negotiations with the Board of Trade regarding the establishment of pressed-brick plant.

Jackson—Brick Works.—Reports state that J. Houch of Springfield, Ill., has secured site on which to erect brick-making plant which will have a daily output of 20,000 bricks. About \$45,000 will be invested.

Maleo—Educational.—Center Graded School has been incorporated by N. E. Burnham, G. W. Harper and J. E. Putnam.

Silver City (P. O. Palmetto Home)—Electric-light Plant and Water-works.—Silver City Light & Water Co. has increased capital from \$5000 to \$8000, and contracts for the construction work will be let at once.

Silver City (P. O. Palmetto Home)—Water-works, Electric-light and Ice Plant.—Citizens' Electric Light, Water & Manufacturing Co. has been organized to erect and operate water-works, electric-light and ice plant.

Stevens (P. O. Magnolia)—Naval Stores.—Chatawa Naval Stores Co. has been incorporated, with \$30,000 capital.

Tunica—Electric-light Plant.—The town has made arrangements for the purchase of electric-light plant to cost \$5000. This was mentioned last week as being contemplated. Address The Mayor.

Vicksburg—Lumber Mills.—Incorporated: Delta Plantation and Lumber Mills, with \$50,000 capital, by Oscar A. King, William H. Brown and John A. Hamilton.

Vicksburg—Gas Works.—Vicksburg Gas Co. has increased capital from \$131,000 to \$250,000.

West Point—Steam Laundry.—The Board of Trade is organizing a company to establish a steam laundry.

## MISSOURI.

Farber—Coal Company.—E. M. Lawder, R. M. Lawder and C. W. Peterson have incorporated the Lawder-Peterson Coal Co., with \$50,000 capital.

Flat River—Land and Lumber Company.—Whitener Land & Lumber Co. has been incorporated, with \$100,000 capital, by H. S. Whitener, C. M. London and G. B. Gale.

Galt—Hardware Company.—Incorporated: Farmers' Hardware Co., with \$5000 capital, by William M. Sprout, A. Pettit, W. D. Downing and others.

Kansas City—Land and Lumber Company.—F. E. Curtis, W. H. Powell, H. M. Graham and others have incorporated the Gulf Land & Lumber Co. with \$200,000 capital.

Kansas City—Construction Company.—Incorporated: Kansas Telephone Construction Co., with \$70,000 capital, by James S. Brailey, Ed L. Barber, O. C. Snider and others.

Kansas City—Mercantile.—Incorporated: Kemper-Paxton Mercantile Co., with \$150,000 capital, by William T. Kemper, Daniel P. Paxton and associates.

Kansas City—Flour Mill.—Reports state that the Kelley Milling Co. contemplates enlarging mill and installing machinery for increasing capacity from 1200 to 2000 barrels of flour a day.

Kansas City—Packing Plant.—It is reported that the Schwarzschild & Sulzberger Co. will extensively enlarge and improve its hog-killing and handling plant, and plans are now being prepared by the constructing engineer of the company, Mr. Levy. When the improvements are completed the plant will have a weekly capacity of from \$25,000 to 30,000 hogs.

Louisiana—Gas and Electric Plant.—Louisiana Gas & Electric Light Co. has increased capital from \$50,000 to \$100,000.

Trenton—Hardware Company.—Witten Hardware Co. has been incorporated by T. N. Witten, S. G. Witten, A. E. Fisher and J. B. Wright with \$20,000 capital.

## NORTH CAROLINA.

Charlotte—Cotton Company.—Chartered: Carolina Cotton Co., by E. J. Heith, E. S. Reid and Joseph McLaughlin.

Charlotte—Water-power Development.—It is reported that E. D. Latta of the Charlotte Electric Railway, Light & Power Co. will arrange for the development of 18,000 horsepower on the Catawba river.

Gastonia—Cotton Mill.—George A. Gray will build a cotton mill of 15,000 spindles and 450 looms, from \$250,000 to \$300,000 to be invested. Site has been purchased and the other details are being arranged.

Greenville—Agricultural Implements.—A. G. Cox Manufacturing Co., manufacturing agricultural implements, will enlarge and improve plant.

Haw River—Cotton Mill.—The Trollinwood Manufacturing Co. has been incorporated and organized with John A. Trollinger, president; B. S. Robertson, treasurer, and J. G. Montgomery, engineer in charge of construction. Contract has been awarded for 2240 spindles, 125 looms and other machinery. Capital stock is \$125,000.

Hertford—Mercantile.—C. W. Morgan and E. V. Perry have incorporated the Supply & Development Co., with an authorized capital of \$100,000.

Hillsboro—Cotton Manufacturing.—Incorporated: The Bellevue Manufacturing Co., capitalized at \$125,000, for manufacturing cotton goods, etc. The incorporators are S. Strudwick, P. C. Collins, T. N. Webb, S. M. Gattis and others.

La Grange—Cotton Gln.—D. W. Wood will

larged scale the Cumming & Swinson copper works.

## SOUTH CAROLINA.

Anderson—Electric Plant.—Chartered: Piedmont Electric Co., with \$25,000 capital, by E. S. Mooror, G. W. Evans and H. H. Watkins.

Charleston—Supply Company.—Ball Supply Co. has been incorporated by J. G. Ball and Elias Ball, with \$7000 capital.

Marion—Lumber Mill.—Marion County Lumber Co., reported incorporated last month with \$300,000 capital to manufacture lumber and other products of wood, is erecting mill with a daily capacity of 100,000 feet for the development of pine timber.

St. Matthews—Live-stock.—J. H. Henagen, T. A. Amaker and J. A. Banks have incorporated the St. Matthews Live-Stock Co., with \$10,000 capital.

Youngs—Cotton Gln.—W. P. Harris will rebuild his cotton ginery, recently destroyed by fire, but not until next year.

## TENNESSEE.

Bristol—Lumber Mill.—It is reported that the Strong Lumber Co. of Philadelphia, Pa., contemplates reopening its lumber plant in Bristol, and it is also negotiating for the purchase of a large tract of timber land near the North Carolina border. Elias Deemer of Williamsport, Pa., is president; W. P. Barrows of Philadelphia, Pa., secretary, and C. H. Hett, general manager.

Brownsville—Cotton Mill.—It is proposed to organize a company with capital stock of \$200,000 to build cotton mill referred to last week. The Commercial Club is furthering the project.

Chattanooga—Box Factory.—Consignees' Favorite Box Co. is making extensive improvements to its plant, doubling the capacity. A three-story brick warehouse 50x61 feet is being erected and a band-saw mill being installed; present output four carloads per week. About \$10,000 will be invested. Isaac Springer is superintendent.

Chattanooga—Coal and Iron Mines, etc.—Cumberland Plateau Corporation has been incorporated, with \$500,000 capital, by T. R. Preston, W. D. Carswell, Samuel Bosworth Smith, Ross S. Faxon of Chattanooga, and Mark Packard of Buffalo, N. Y., for the development of 20,000 acres of coal and iron lands in Cumberland and Morgan counties. It is proposed later on to build a furnace for utilizing the iron ore.

Chattanooga—Stave and Lumber Manufacturing.—Chartered: Bridgeport Stave Works, with \$5000 capital, by J. A. McGregor, A. A. McGregor, LeRoy McGregor, J. P. Hamilton and Ed. F. Jared, all of Ohio, to manufacture and deal in tight and slack-barrel staves, railroad ties, timbers, lumber, etc. As soon as site is secured plant will be erected.

Chattanooga—Stove Foundry.—Tennessee Stove Works, reported organized last week to manufacture stoves, etc., has completed organization with J. L. Caldwell, president and treasurer; G. N. Henson, vice-president, and G. W. Corey, secretary; capital \$50,000.

Chattanooga—Cigar Factory.—M. Mendez and C. Alonzo of Havana, Cuba, and Tampa, Fla., have procured quarters at 827½ Market street and will establish cigar factory.

Chattanooga—Manufacturing.—Chattanooga Bottling Works will erect one-story building at a cost of \$5000 and equip as manufacturing plant.

Clarksville—Candy Factory.—It is reported that Charles Lockert will establish a candy factory.

Clarksville—Carriage Factory.—D. A. Harrison has purchased livery stable on 3d street, which will be remodeled as a carriage factory.

Cliff Springs—Coal-mining.—R. J. Moscrip has leased and will operate the coal mines of the Peacock Coal & Coke Co. Capacity of the mines will be increased.

Cornersville—Canning Factory.—A company has been organized, with D. C. Kenedy, president, and W. G. Welkman, secretary-treasurer and manager, to operate canning factory. Plant will have a daily capacity of 10,000 cans.

Covington—Spoke Factory.—Covington Spoke Co., with \$6000 capital, by Geo. F. Weis, M. A. Walker, J. H. Flippin, Geo. B. Gillespie and John H. Barrett, to erect and operate a spoke factory.

Johnson City—Drug Company.—Patton Drug Co. has been incorporated, with \$8000 capital, by James A. Means, Frank S. Patton, S. Brown, Thad A. Cox and Herbert Shipley.

Knoxville—Bottling Works.—It is reported that C. C. Fox will erect bottling works.

Lewisburg—Cannery.—Chartered: Cornersville Canning Factory Co., with D. C. Ken-

## INDISPENSABLE.

THE C. D. PRUDEN COMPANY,

Manufacturers of Steel Window Frames and Sashes, Ceilings, Sidings, Skylights, Store Fronts.

Baltimore Office, 331 St. Paul Street.

Baltimore, Md., September 7, 1904.

Manufacturers' Record Publishing Co.:

Gentlemen—Your *Daily Bulletin* is one of the indispensable requirements of our business. The information we procure from it is thoroughly reliable, and not to be obtained through any other medium that has ever been presented for our consideration.

Very truly yours,

GEO. NORBURY MACKENZIE, Vice-President.

Marshall—Water-works.—G. Jaeger, Rich Hill, Mo., has contract at \$19,840 for constructing water-works previously reported.

Rich Fountain—Flour Mill.—It is reported that Geo. Struempf will remodel his flour mill.

St. Louis—Mining, etc.—Mattie L. Mining Co. has been incorporated by J. A. Molasky of St. Louis and L. T. Sites of Blackwater, Mo., for general mining, milling and smelting; capital \$50,000.

St. Louis—Coal Company.—Baldwin Coal Co. has been incorporated, with \$5000 capital, by Alice A. Thomas, Augustus Thomas, Chas. H. Austin and Elihu B. Thomas.

St. Louis—Candy Factory.—Wenneker Candy Co. and Blanke & Bro. Candy Co. have consolidated, changing the name to the Blanke-Wenneker Candy Co. and increasing capital from \$75,000 to \$375,000.

St. Louis—Lead Mining, etc.—Madison Lead & Land Co. has incorporated, with \$600,000 capital, to mine, mill, smelt and refine lead, to conduct agricultural and mercantile business; incorporators, George B. McManamon, A. N. Sager, E. H. Wagner, F. J. McMasters and associates.

St. Louis—Drug Factory.—Kabama Chemical Co. has incorporated, with \$20,000 capital, to manufacture proprietary medicines; incorporators, Wm. H. Merrill, Lester M. Hall and Eugene Lumeluis.

St. Louis—Cooling Towers.—Alfred Seibert, Ernest W. Stamm, Paul E. Wolden and associates have incorporated the American Cooling Tower Co., with \$50,000 capital, to construct cooling towers and cooling filtration and condensation devices, etc.

St. Louis—Stair Company.—John W. Reinhardt Stair Co. has been incorporated, with \$40,000 capital, by John W. Reinhardt, Eleanor B. Reinhardt and Lee A. Hall.

rebuild next summer his cotton gin recently burned.

Mt. Holly—Foundry.—It is reported that S. B. Robertson will establish foundry.

Salisbury—Water-power Electrical Plant.—Dispatches state that the Whitney Reduction Co. has engaged engineers and contractors to begin the work of developing its water-power property on the Yadkin river near Salisbury. In January, 1904, and previous to that time the Manufacturers' Record has referred to this project. It is proposed to develop about 46,000 horse-power and build an electric plant to transmit the power obtained for the operation of mining plants, manufactories and other industrial plants. Previous statements were that the dam will be 1500 feet long, 58 feet wide and 38 feet high, to cost about \$600,000. E. B. C. Hambley of Salisbury is president of the Whitney Reduction Co., which also has offices in Pittsburgh, Pa., Messrs. Whitney & Stephenson, bankers, of that city being interested.

Selma—Cotton Mill.—The Selma Cotton Mills, reported in June last, will have 2280 ring spindles (instead of 5000 as at first stated), and the plant is now under construction, with the expectation of being completed by January 1.

Wadesboro—Live-stock Company.—W. B. Kerr, J. A. Leak, H. W. Little, W. C. Hardison, J. D. Horne and others have incorporated the Wadesboro Live-Stock Co., with an authorized capital of \$25,000. Company was reported last week as being organized with W. B. Kerr as manager.

Wilmington—Lumber Mill.—Angola Lumber Co. has let contract for building a band and resaw mill, which will increase the plant's capacity from 60,000 feet to 110,000 feet of lumber daily.

Wilmington—Copper Works.—S. W. Skinner has purchased and will operate on an en-

uedy, president; D. B. Clayton, vice-president; W. G. Wilkerson, secretary and general manager, and S. M. Haywood, treasurer.

Loudon—Flour Mill.—It is rumored that Goas & Co. contemplate erecting 50-barrel flour mill.

Memphis—Gold Mines.—Eastern capitalists have become interested in the Pittsburg gold mine near Memphis, and will make general improvements to the mining plant, including the installation of air compressors and power drills. Samuel Granger, E. O. C. Ord and others are interested.

Nashville—Cold-storage Plants.—Reports state that S. H. Brubaker of Indianapolis, Ind., contemplates organizing stock company for the erection of extensive cold-storage plant at Nashville and smaller branch plants through the State; about \$200,000 to be invested.

Nashville—Coal-land Developments.—N. C. Chapman, Charles Spalding and Henry E. Weaver, all of Chicago, Ill., now developing coal lands on the Tennessee Central Railway, have decided to extend their operations in that field. It is stated they will expend about \$1,000,000 for this purpose.

Tipton—Flour Mill.—Reports state that Dana Harma and Joseph White will erect flour mill.

White Haven—Cotton Gin.—Chartered: White Haven Gin Co., with \$6000 capital, by J. B. Hildebrand, J. W. Hale, W. R. Vanhook and associates.

#### TEXAS.

Amarillo—Railroad Construction.—C. L. Tallmadge, Chicago, Ill.; E. C. Gordon and E. R. Tallmadge of Amarillo, James E. Caldwell of Nashville, Tenn., and others have incorporated the Northern Texas Construction Co., with a capital stock of \$250,000, for the purpose of constructing railroads.

Amarillo—Townsite Company.—C. L. Tallmadge, Chicago, Ill.; E. C. Gordon, E. R. Tallmadge of Amarillo, James E. Caldwell of Nashville, Tenn., and others have incorporated the Northern Texas Townsite & Land Co., with a capital stock of \$250,000.

Beaumont—Bakery.—Incorporated: Vienna Bakery Co., with \$5000 capital, by James Farine, H. C. Patton and others, to establish a bakery.

Caldwell—Mineral-paint Deposits.—J. E. Collins and A. Pollock have sold 1400 acres of mineral-paint lands to a company which will develop the deposits.

Chico—Cotton Mill.—It is proposed to organize a \$250,000 stock company for the purpose of building a cotton factory. No details as to equipment, character of production, etc., have been decided, and information regarding this is being collected. Ed A. Dickenson is one of those interested.\*

Corsicana—Cotton Mill.—A. G. Elliott, W. E. Matchett and Oliver Peters have incorporated the Corsicana Cotton Mills with capital of \$100,000 to take over and continue an established plant of 5000 spindles and 150 looms.

Dallas—Bakery.—Stacey Baking Co. has been incorporated, with \$20,000 capital, to conduct bakery; incorporators, J. W. Stacey, Charles T. Alexander and Charles C. Cobb.

El Paso—Bottling Works.—John McArdle, M. R. Sweeney and Joseph M. Nelson have incorporated the Woodlawn Bottling Co., with \$1500 capital.

Fort Worth—Educational.—Chartered: Nelson & Draughton Business College, capitalized at \$20,000, by J. W. Draughton and others.

Fort Worth—Holt Works.—The Fort Worth Iron & Steel Manufacturing Co., recently reported incorporated with \$200,000 capital, etc., has awarded contract for the erection of its first building. This structure will be 60x200 feet in size, and is to be equipped with the bolt-manufacturing machinery. Contract for the other buildings will be let later on. W. H. Eddleman is treasurer.

Fort Worth—Townsite Company.—A. L. Winfrey, W. L. Foster and D. S. Hare have incorporated the Page Company, with a capital stock of \$10,000.

Fort Worth—Car Shops, etc.—The Texas & Pacific Railway, L. S. Thorne, vice-president and general manager, Dallas, Texas, will build car shops at Fort Worth, beside making other improvements.

Fort Worth—Cotton Compress.—Chartered: Traders' Compress Co., with \$150,000 capital, to operate cotton compresses, cotton gins, etc.; incorporators, Neil P. Anderson of Fort Worth, G. J. Sorrells, F. J. Phillips of Greenville, Texas, and associates.

Houston—Packing Plant.—The Business League is negotiating with a \$2,000,000 company that contemplates establishing a packing plant in Houston.

Houston—Mercantile.—K. H. Cawthorn, James E. Archer and associates have incorporated as K. H. Cawthorn & Co., with \$100,000 capital.

Prosper—Flour Mill.—The Lone Star Milling Co. has been incorporated, with a capital stock of \$35,000, for the purpose of erecting flour-mill plant. The officers of the company are H. M. Parvin, McKinney, Texas, president; Charles Smith of Prosper, vice-president; E. B. Doggett, McKinney, Texas, general manager.

San Antonio—Cannery and Can Factory.—Efforts are being made by the Business Men's Club to establish a cannery for fruits and vegetables and a can factory to supply the cans.\*

Sherman—Electric-light Plant.—The Sherman Gas & Electric Co. has filed a deed of trust to the St. Louis (Mo.) Union Trust Co. for \$100,000, a large proportion of which will be used to enlarge and improve its plant, installing modern machinery. R. B. Stichter is the general superintendent of the Sherman Gas & Electric Co.

Texarkana—Casket Factory.—Texarkana Casket Co. has increased capital from \$10,000 to \$20,000.

#### VIRGINIA.

Clinchfield—Coal-land Developments.—The Clinchfield Corporation has been organized with a capital stock of \$2,500,000 (with no bond issue), and acquires the properties of the Cranes Nest Coal Co. in Southwest Virginia. These properties include about 112,000 acres of coal land in Wise and Dickinson counties, which it is proposed to develop. A railway 134 miles long (the South & Western Railway constituting 69 miles—now in operation—being a part of it) is to be constructed to facilitate shipping the coal. The Clinchfield Corporation purchases the interests of the Union Trust Co. of Baltimore in acquiring ownership in the Cranes Nest lands. The Clinchfield Corporation's officers are: President, James Clarke, president of the Drovers and Mechanics' National Bank, Eutaw and Fayette streets, Baltimore, Md.; directors, Messrs. James Clarke, Miles White, Jr., J. Southgate Lemmon, each of Baltimore; Geo. L. Carter of Bristol, Tenn., and Archer A. Pelegar of Bristol, Va. It is stated that representatives of New York and Philadelphia capitalists who will supply the funds for developments will be added to the directors.

Clifton Forge—Grist Mill.—P. L. Yarbrough is erecting grist mill which will have a daily capacity of 100 bushels.

Durand—Machine Works.—Lynchburg Machine Works, with William Mininger, president; James A. Duckworth, vice-president and treasurer, and Anna W. Hagemann, secretary; capital \$10,000 to \$25,000.

Fredericksburg—Steel Bridge.—Boards of Supervisors of Spottsylvania and Culpeper counties have decided to build a steel bridge across the Rapidan. Professor Harris, supervisor, Lignum, Va., can be addressed.

Lewiston—Grist and Feed Mill.—It is reported that Lewis Boggs will build grist and feed mill.

Norfolk—Stove Foundry.—The Chamber of Commerce is negotiating for the removal of a Virginia stove foundry to Norfolk and the erection of a larger plant.

Richmond—Gas Plant.—Chartered: Union Gas Co., with \$50,000 capital. Frederick M. Dyer, 207 West 51st street, New York, N. Y., is president, and Walter S. Seabury, Maplewood, N. Y., secretary-treasurer.

Riverton—Lime Works.—Chartered: Riverton Lime Co., with \$150,000 capital, to quarry and sell limestone, manufacture lime, etc. Adam C. Carson is president; William E. Carson, secretary and manager, and Samuel K. Carson, treasurer.

Sussex—Lumber Company.—Incorporated: The Sussex Lumber Co., with capital stock of \$20,000, and E. M. Eley, Waverly, Va., president; A. W. Harmon, Norfolk, vice-president, and L. F. Bordenave, Norfolk, treasurer.

#### WEST VIRGINIA.

Beckley—Feed Mill.—Curtis & Phipps are erecting building which will be equipped with machinery for grinding meal and feed. Steam power will be used.

Central City—Manufactory.—Reports state that Mrs. Frank Whitaker and W. L. Grovin have purchased 146 acres of land on which to locate manufactory plant.

Charleston—Transfer Company.—Peter Silman, R. G. Hubbard, A. L. Ruffner, A. D. Mead and W. J. Eskew have incorporated the Charleston Utility Co., with \$25,000 capital, to conduct wharfage, storage and transfer business.

Elkins—Drug Factory.—West Virginia Chemical Co. has been incorporated by A. T. Watson, M. L. Rozser, E. H. McDermot, C.

W. Maxwell and S. A. Willhide to manufacture drugs and patent medicines; capital \$10,000.

Huntington—Gas and Oil Wells.—Chartered: The Southern National Gas & Oil Co., capitalized at \$3,500,000, to operate for gas and oil in the new Cabell county fields. The incorporators are F. Prentice, C. S. Burlingame, John F. Hume, M. E. Nichol and M. J. Friedman, all of New York.

Mannington—Pottery.—Homewood Pottery Co. has incorporated, with \$100,000 capital, to manufacture and sell pottery; incorporators, George Bowers, J. Turner Koen, J. O. Huey and others.

Morgantown—Lumber Manufacturing.—A. C. Oliver Lumber Co. has reorganized with I. G. Lazelle, president; E. B. Stone of Connelville, Pa., vice-president and general manager; A. A. Werner, secretary, and D. C. Hoffman, treasurer. Capital stock will be increased from \$50,000 to \$100,000, and the plant, which has been idle, will be operated on an extensive scale.

Parkersburg—Timber Lands.—L. Dudley, J. H. Gregg, R. N. Miles, J. W. Romine and others have incorporated the United States Lumber Co., with \$250,000 capital, to develop timber lands.

Parkersburg—Plate-glass Plant.—Charles H. Shattuck, Johnston N. Camden, E. L. Davidson of Parkersburg, John W. Williams, Charles J. Griffiths and Harry H. Patterson of Pittsburg, Pa., have incorporated the Colonial Plate Glass Co., with \$200,000 capital, to manufacture and sell plate glass. Company was reported last month as to be organized for this purpose.

Ronceverte—Development Company.—Incorporated: Ronceverte Development Co., with \$10,000 capital, by N. H. Slack, E. E. Meador, George W. Gibbs and others.

St. Marys—Gas and Oil Wells.—Chartered: The Toledo Oil & Gas Co., capitalized at \$100,000, to drill for oil and gas, by George C. Dunham, Jay Benson, L. A. Dunham, C. Benson and V. W. Morehouse, all of Toledo, Ohio.

Victor—Flour and Feed Mill.—Reports state that N. M. Coleman will build flour and feed mill at a cost of \$10,000.

Wheeling—Copper Mines.—Copper Mountain Mining Co. has incorporated, with \$10,000 capital, to operate mines; incorporators, D. A. McKee, Jr., M. Day, I. M. Garom and associates.

Wheeling—Manufacturing Roofing.—Schenerein Roofing Supply Co. has incorporated, with \$10,000 capital, to manufacture and deal in roofing of all kinds; incorporators, C. Ed Schenerein, J. Oscar Schenerein, Jr., and others. This company continues an established business.

#### INDIAN TERRITORY.

Muskogee—Telephone Extension and Improvements.—The Pioneer Telephone Co. has begun installing flashlight system preparatory to extending the service to all parts of the city. The company will also erect brick building, expending about \$60,000 in all for the improvements.

Quinton—Mercantile.—Incorporated: Garretts-McDaniel Mercantile Co., with \$25,000 capital; H. D. Garretts, president; F. T. McDaniel, vice-president, and W. B. Garretts, secretary-treasurer.

South McAlester—Light and Power Plant. South McAlester Light & Power Co. is building an addition and will install machinery for doubling the capacity.

South McAlester—Sash and Door Factory. J. E. Jones has purchased the plant of the South McAlester Sash & Door Co. at \$3000 and will operate as the Jones Manufacturing Co. Mr. Jones will install new machinery for increasing the capacity, and will later build an addition to plant.

#### OKLAHOMA TERRITORY.

Anadarko—Sewerage System.—City has awarded contract for construction of sanitary sewerage system previously reported to Doyle & Schwartz of Colorado Springs, Col., at \$19,120.

El Reno—Manufacturing Company.—A. F. Newell, A. E. Newell, W. T. Beeks and W. A. Newell have incorporated the Newell Manufacturing Co. with \$100,000 capital.

Garber—Mining.—Frank Tresser of Covington, O. T.; E. J. Sutton, I. F. Whetsell and John Albrecht of Garber have incorporated the Western Oklahoma Mining & Development Co., with a capital stock of \$50,000.

Marshall—Development Company.—E. V. Bedford, J. H. Funk, W. E. McKean and associates have incorporated the Colorado & Oklahoma Oil & Development Co., with \$250,000 capital.

Medford—Telephone System.—D. L. Cline, J. Sharp and W. S. Long have incorporated

the Medford Rural Telephone Co., with a capital of \$3000.

Oklahoma City—Publishing.—G. O. and Pearl Fenimore of Lambert, O. T., and Richard Sethman of Waldron, Kan., have incorporated the Farmers' Magazine Co., with a capital of \$10,000.

Oklahoma City—Realty Company.—Hallett Townsite & Realty Co. has been incorporated, with \$100,000 capital, by J. H. Grant, E. G. McAdams, E. A. Fox and others.

Oklahoma City—Oil and Gas Wells.—Superior Oil & Gas Co. has incorporated, with \$600,000 capital, to drill for oil and gas; incorporators, J. A. Braniff, W. O. Mitchell, W. W. Braswell, G. W. Garis and others.

Ralston—Gas and Supply Company.—W. F. McCague, H. E. Thompson, William Muddock and others have incorporated the Riverside Gas & Supply Co. with \$1,000,000 capital.

Union City—Telephone System.—F. L. Wilkins, T. M. Kirby and L. S. Fuhring have incorporated the Union City Telephone Co., with a capital of \$5000.

#### BURNED.

Calvert, Md.—Thomas Warburton's saw-mill and engine-house; loss \$2000.

Clarksburg, Ky.—John Blackwell's tobacco barn; loss \$2000.

Elkton, N. C.—J. W. Burney's cotton gin.

Ellisville, Miss.—Ellisville Compress Co.'s plant; loss \$75,000.

Erin, Tenn.—V. R. Harris' stove factory.

Franklin, Ga.—Heard County Cotton Oil & Fertilizer Co.'s cotton gin; loss \$3500. W. C. McBride, Newnan, Ga., is president of company.

Furrh, Texas.—Kills Holt's cotton gin; loss \$4500.

Grifton, N. C.—Keene & Kittrell's cotton gin, with dry-kiln recently installed at a cost of \$1200.

Grovania, Ga.—Grovania Oil Co.'s cotton-oil mill, gin and three residences; loss \$40,000.

High Point, N. C.—High Point Metallic Bed Co.'s plant.

Jersey, Ga.—The Jersey Cotton Oil Mills.

Kiddville, Ky.—G. D. Cook's saw-mill; loss \$400.

Lawton, O. T.—Lawton Ice Co.'s stables; loss \$2500.

Maysville, N. C.—M. R. Sabiston's cotton gin; loss \$5000.

Millen, Ga.—J. H. Daniel's ginney; loss about \$5000.

Nashville, Tenn.—Nashville, Chattanooga & St. Louis Railroad Co.'s freight sheds; loss \$200,000. H. McDonald, Nashville, is chief engineer.

Newberry, Fla.—Cummer Lumber Co.'s phosphate plant.

Perry, Ga.—R. L. Marchman's iron warehouse.

Richmond, Va.—R. A. Patterson Tobacco Co.'s factory No. 2; loss \$100,000.

Rosetta, Miss.—A. R. Burleson & Sons' hardwood mill.

Senior, Texas.—Felix Herrmann's cotton gin; loss \$2000.

Statesboro, Ga.—James G. Brannen's ginney, grist mill and saw-mill; loss about \$8000.

Union, S. C.—W. T. Jones' cotton gin; loss \$500.

Varennes, S. C. (P. O. Anderson).—J. R. Miller's cotton gin.

Village Mills, Texas.—Kirby Lumber Co.'s dry-kilns.

Waverly, Texas.—S. R. Hardy & Sons' cotton gin; loss \$3000.

Wetumpka, Ala.—Riverside Inn, owned by Mrs. M. E. Thomas; loss \$6000.

Wingate, N. C.—Austin & Perry's cotton gin; loss \$3000.

#### BUILDING NOTES.

\*Means machinery, proposals or supplies are wanted, particulars of which will be found under head of "Machinery, Proposals and Supplies Wanted."

Amarillo, Texas—Courthouse, etc.—Contract for erecting Potter county's proposed \$50,000 courthouse and jail has been awarded to J. J. Holt.

Anadarko, O. T.—Courthouse and Jail.—L. Crosby of Kansas City, Mo., has been awarded contract at \$3,765 for the erection of courthouse and jail.

Athens, Ga.—College Building.—Plans by Prof. C. M. Strahan have been accepted for \$15,000 biological building previously reported to be erected at the University of Georgia.



Atlanta, Ga.—Store Building.—W. H. George has contract to erect proposed store building for John W. Grant after plans by Morgan & Dillon; structure to be two stories, 51x103 feet, of brick, and cost \$12,000.

Benwood, W. Va.—Hotel.—Holderman Bros. are arranging to rebuild hotel in North Benwood recently burned.

Berryville, Ark.—Courthouse and Jail.—Carroll county will expend \$3000 in enlarging and improving courthouse and \$2500 in erecting stone jail.

Big Sandy, Texas.—College Building.—Big Sandy Independent School District, J. P. Hart, president, will open bids on November 16 for constructing the proposed building referred to last week. The structure will be 60x30 feet, of brick, etc., and cost about \$5000. Will probably install hot-air heating equipment and acetylene-lighting apparatus.

Blakely, Ga.—Courthouse.—Early County Commissioners have awarded contract to W. T. Jay & Co. at about \$50,000 for constructing the proposed courthouse.

Bristol, Va.—Tenn.—Residences.—Stone-Hulling Lumber Co. has contract to erect proposed two-story dwellings on Chalmers street for Joseph L. King.

Bristol, Tenn.—Residence.—Mrs. W. W. Allison of Saltville, Va., will build modern residence in Bristol.

Charleston, S. C.—Foundry Building.—Molise de Leon, Atlanta, Ga., has contract at \$64,870 for the erection of foundry building at the navy-yard, previously reported.

Chattanooga, Tenn.—Store Building.—J. S. Clay has permit to erect two-story brick store buildings at a cost of \$4000.

Chattolane, Md.—Dwelling.—W. Plunkett Stewart, 403 St. Paul street, Baltimore, Md., will erect dwelling to be located in Green Spring valley after plans and specifications by Chapman & Frazer, architects, 8 Exchange Place, Boston, Mass. Structure to be three stories high with basement, 44x33 feet, with two-story wing 29x58.4 feet; frame construction on stone foundation; steel beams and girders; copper roofing; sanitary plumbing; hot-water heating system; silver vault. Charles McCaul Company, 123 West Saratoga street, and John A. Sheridan Company, 321 North Holliday street, both of Baltimore, Md., are estimating on the construction.

Clarendon, Ark.—Opera-house.—J. S. Thomas, J. T. Lee and associates have begun the erection of an opera-house to cost from \$3000 to \$5000.

Cleburne, Texas.—City Hall and Fire Station.—City has had plans prepared for proposed city hall and fire station; to be two stories, of brick, and cost \$5000.

Columbia, S. C.—School Building.—The Columbia School Board has engaged Walter & Edwards, architects, to prepare plans and specifications for the erection of the proposed \$30,000 school building.

Concord, N. C.—Lodge Building.—Junior Order of Odd Fellows and the Woodmen of Concord have purchased site on which to erect \$20,000 lodge building.

Cornerville, Tenn.—Store Building.—Hardware & Implement Co., being organized by J. B. Gambill and others with \$10,000 capital, will erect building 40x100 feet.

Crawfordville, Fla.—Jail Building.—Southern Structural Steel Co., San Antonio, Texas, has contract to build two-story brick jail building for Wakulla county, reported last week to be erected at a cost of \$4500; structure to be fireproof, with steel floors and ceiling.

Eddy, Texas.—Lodge Building.—F. L. Lowrey of Waco, Texas, has contract to erect proposed two-story brick lodge building for the Knights of Pythias.

Florence, S. C.—Public Building.—T. R. Warrell of Lynchburg, Va., and J. R. Moore of Newport News, Va., have contract at \$28,000 for erecting proposed public building.

Gainesville, Ga.—Sanitarium and Hotel.—The North Georgia Electric Co. and the Gainesville & Dahlonega Electric Railway Co. will arrange for the erection of a sanitarium and a hotel near Gainesville, each to cost \$50,000; A. J. Warner president of first-named company.

Gainesville, Ga.—Dwelling.—A. J. Warner, president of North Georgia Electric Co., will build dwelling.

Hobart, O. T.—School Building.—Johnson & Sherman of Oklahoma City, O. T., have been awarded contract at \$21,100 for the erection of eight-room school building.

Hobart, O. T.—Courthouse and Jail.—Thos. O'Keefe & Co. of Oklahoma City, O. T., have been awarded contract at \$38,265 for the erection of courthouse and jail.

Houston, Texas.—Business Block.—J. M. Dorrance, 210 Main street, will erect a six-story brick business block and office struc-

ture. Plans and specifications are being prepared.

Humboldt, Tenn.—School Building.—City will at once arrange for the erection of \$15,000 school building for which bonds were recently voted. Address The Mayor.

Jackson, Miss.—Institution Buildings.—Proposals will be opened October 22 for constructing buildings for the Deaf and Dumb Institution, State of Mississippi. Requests for plans and specifications must be accompanied by certified check of \$25 to secure prompt return. Address J. R. Dobyns, secretary commissioners. These buildings lately referred to.

Jacksonville, Fla.—Dwelling.—Indian River Association will erect two-story brick residence. J. H. W. Hawkins prepared the plans.

Kansas City, Mo.—Hospital.—Plans of F. C. Gunn, Shukert Building, and Root & Siemens, Postal Telegraph Building, have been accepted for proposed \$225,000 fireproof hospital, to consist of six buildings.

Kansas City, Mo.—Business Block.—Hollinger & Mitchell have received contract to erect brick business block 66x70 feet to cost \$18,000.

Lawton, O. T.—School Building.—Thomas O'Keefe & Co. of Oklahoma City, O. T., has secured contract at \$15,488 for the erection of eight-room school building.

Lawton, O. T.—School Building.—Johnson & Sherman of Oklahoma City, O. T., have been awarded contract for the erection of four-room school building at \$2790.

Lawton, O. T.—Courthouse and Jail.—The Records Contracting Co. has been awarded contract at \$38,990.70 for the erection of courthouse and jail.

Lawton, O. T.—City Hall.—Site has been selected for the erection of proposed City

change. Estimated cost of proposed building is \$250,000.

New Orleans, La.—Storehouse.—Penn Bridge Co., Beaver Falls, Pa., has contract at \$90,789 for building proposed storehouse at the New Orleans Naval Station. Structure to be fireproof, two stories, 62x202 feet.\*

Norfolk, Va.—Office Building.—The Commercial Realty Corporation has awarded contract to James Stewart & Co., builders, 319 North Charles street, Baltimore, Md., for the construction of office building for the National Bank of Commerce, after plans and specifications by Parker & Thomas, architects, 612 North Calvert street, Baltimore, Md. Structure to be 12 stories high with basement, 44.8x135.1 feet, granite base, terracotta to second story, brick with ornamental terra-cotta trimmings for remaining stories, concrete foundation, steel-frame fireproof construction, slag roofing, galvanized-iron cornice and coping, fireproof vaults, skylights, bronze doors and grill work, electric wiring and fixtures, sanitary plumbing, steam-heating system, three passenger elevators, one freight elevator, complete electric generating plant. This building previously mentioned.

Norfolk, Va.—Bank and Office Building.—E. Tattersson has contract to erect proposed six-story fireproof bank and office building for the Atlantic Trust & Deposit Co.; structure to be 60x114 feet, of white marble, pressed brick and white terra-cotta with concrete and steel roof, heated by an overhead system of distribution of low-pressure steam, electric lights, telephones, electric freight elevator with 7000 pounds capacity, etc. Neff & Thompson prepared the plans.

Norfolk, Va.—Hotel Improvements.—Chas. H. Consolvo, manager of the Monticello Hotel, and associates have purchased the Pine

A. Sheridan Company, 321 North Holliday street, both of Baltimore, Md., are estimating on the construction.

Roland Park, Md.—Wm. H. Bryan, 218 East Pleasant street, Baltimore, Md., has awarded contract to Gladfelter & Chambers, builders, Woodberry, Md., for the construction of dwelling after plans and specifications by Wyatt & Nolting, architects, Builders' Exchange Building, 2 East Lexington street, Baltimore, Md. This building previously mentioned.

Savannah, Ga.—Bank Building.—General Supply & Construction Co. of New York, N. Y., has contract to erect National Bank of Savannah building, previously reported; structure to be 10 stories, of Bedford (Ind.) limestone and brick, have three elevators, refrigerating plant for supplying building with ice water; cost about \$350,000. H. W. Witcover is architect in charge.

Savannah, Ga.—Bank and Office Building.—General Supply & Construction Co., 24 State street, New York, has contract to erect National Bank of Savannah Building, previously reported; structure to be fireproof, 10 stories, of Bedford (Ind.) limestone and brick, have three elevators, steam heat, refrigerating plant for supplying building with ice water, and will cost about \$350,000. H. W. Witcover is architect in charge. The National Realty Co. has been organized, with Herman Myers, president, to own and conduct this building.

Scottsboro, Ala.—Bank Building.—A bank of which Hogan Jackson of Goodwater, Ala., is president will erect banking building.

Silver City (P. O. Palmetto Home), Miss.—School Building.—Town contemplates erecting school building. Address Town Clerk.

Silver City (P. O. Palmetto Home), Miss.—Store Buildings.—A. L. Bradley and Z. T. Hutchens will erect four store buildings.

South McAlester, I. T.—Business Building.—J. J. McAlester has had plans prepared by Place, Brickley & Walsh for the erection of two-story brick business building.

Spartanburg, S. C.—Library Building.—J. P. Hartzog & Son have contract to erect proposed Kennedy Library building.

Statham, Ga.—School Building.—City has voted affirmatively the proposed \$5000 bond issue for the erection of brick school building. Address The Mayor.

Stuart, Va.—Jail.—C. R. Martin, clerk, Stuart, Va., will receive sealed bids until October 24 for building county jail at Stuart, as per plans and specifications on file in clerk's office, Stuart, and in the office of the B. F. Smith Fireproof Construction Co., Pope Building, Washington, D. C. Certified check for \$500, made payable to the Board of Supervisors of Patrick county, Virginia, must accompany each bid. Usual rights reserved.

Valdosta, Ga.—City has voted the \$35,000 bond issue, previously reported, for the erection of school building. Address E. P. S. Denmark, chairman Board of School Commissioners.

Valdosta, Ga.—Engine-house.—A. W. Varndoe, city clerk, will open bids October 31 for building fire-engine house. Plans and specifications can be seen at City Clerk's office, City Hall. Certified check for \$100 must accompany each bid. Usual rights reserved.

Vicksburg, Miss.—Bank Building.—National Bank of Vicksburg has secured site and is erecting bank building.

Washington, D. C.—Stable.—William Downey will expend \$20,000 in improvements to stable at 1620-1626 L street.

Washington, D. C.—Laboratory Buildings.—Proposals will be opened November 10 for the erection of two laboratory buildings for United States Department of Agriculture, after plans and specifications by Rankin, Kellogg & Crane, architects, 1012 Walnut street, Philadelphia, Pa. Copies of plans can be had from supervising engineer, Capt. John Stephen Sewell, Department of Agriculture. Applicants for plans must deposit check for \$250 to secure safe return. Heating apparatus, elevators, conduit system and electric wiring not included in the contract.

Washington, D. C.—Alms-house.—Bids will be opened October 26 for erecting municipal alms-house buildings, forms, specifications and information regarding which can be obtained at the office of the Federal District Commissioners.

West Palm Beach, Fla.—Firemen's Hall.—Jones & Grier have submitted the lowest bid—at \$4418—for the erection of the proposed firemen's hall. The structure will be of solid brick, two stories high with a tower. E. A. Ehmann, architect, prepared the plans.

White Bluffs, Tenn.—Bank Building.—Merchants' Bank of White Bluff, Pitt Henslee, president, will erect brick bank building.

Whitehorse, O. T.—Parsonage.—Congrega-

## Results Have Been Satisfactory.

THE PENN METAL CEILING & ROOFING CO., LTD.,

23d and Hamilton Streets.

Philadelphia, Pa., October 3, 1904.

Manufacturers' Record Publishing Co.:

Dear Sirs—For some time past it has been our pleasure to receive the *Daily Bulletin*, published by the Manufacturers' Record Publishing Co., and without a doubt it furnishes the most accurate and reliable information of any papers we receive pertaining to the South, and we believe there is no journal published covering this particular field more thoroughly.

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Yours truly, THE PENN METAL CEILING & ROOFING CO.

Hall, for which \$25,000 of bonds have been voted. Address The Mayor.

Lexington, Ky.—Auditorium Building.—City will vote November 8 on the issuance of \$20,000 of bonds for the erection of Auditorium at Woodland Park. Address Thomas A. Combs, mayor.

Little Rock, Ark.—Heating Plant, etc.—Country Club will expend about \$4000 in improvements, including the installation of heating plant, etc.

Magnolia, Ark.—Dwelling.—L. L. Lenoir has contract to erect E. J. Simmons' proposed residence.

Mart, Texas.—Bank Building.—T. M. Blackwood will erect bank and store building 50x100 feet, two stories high, and bids were opened for construction on October 15.

Memphis, Tenn.—Warehouse.—It is reported that local parties contemplate erecting warehouse on sandbar in front of city, and E. E. Wright can give information.

Miami, Fla.—Store Building.—J. H. Hayes will erect stone and brick store building.

Mobile, Ala.—Pythian Temple.—Contract for building the proposed Pythian Temple has been awarded to John McAdory at about \$14,000.

Miami, Fla.—Business Building.—George Zapf will erect two-story brick and stone business building 45x75 feet.

Muskogee, I. T.—Hotel, Roundhouse, etc.—It is reported that the Missouri, Kansas & Texas Railway, S. B. Fisher, chief engineer, St. Louis, Mo., will build an addition to the Katy Hotel and erect 16-stall brick roundhouse.

Nashville, Tenn.—Bank and Office Building.—The members of the Grain Exchange contemplate the erection of a Grain-Dealers' Exchange National Bank building which will be suitable also for quarters for the Ex-

Beach Hotel at Norfolk-on-the-Roads at \$100,000 and will expend \$50,000 in improvements.

Oklahoma City, O. T.—Dwelling.—R. H. Drennen will erect \$10,000 residence.

Oklahoma City, O. T.—Auditorium.—Miller Brewing Co., Milwaukee, Wis., has let contract to the Gross Construction Co. for the erection of two-story building, 112x140 feet, to be used as theater and convention auditorium. Wm. A. Wells prepared the plans.

Oklahoma City, O. T.—Business Building.—Architect C. W. Van Meter has completed plans for three-story brick business building, 50x140 feet, to be erected on North Broadway.

Paragould, Ark.—Dwelling.—J. M. Futrell contemplates erecting residence.

Port Arthur, Texas.—Jail Building.—B. S. Elmendorf has completed plans for city's proposed jail building of concrete.

Port Arthur, Texas.—School Building.—City will erect \$30,000 building to be used as an industrial school. Address The Mayor.

Quitman, Ga.—Hotel.—M. O. Harrell will erect 40-room fireproof hotel to cost \$15,000.

Richmond, Texas.—Jail.—Contract for repairing the county jail has been awarded to Parker & Co. of Houston, Texas, at \$5200.

Richmond, Va.—Dwelling.—Judge David C. Richardson has begun the erection of modern residence on site recently purchased.

Roland Park, Md.—Dwelling.—Mrs. Letitia E. Hanna, 1037 Harlem avenue, Baltimore, Md., will erect dwelling after plans and specifications by Hornblower & Marshall and Edw. L. Palmer, associated architects, 1516 H street N. W., Washington, D. C. Structure to be two stories high with attic, 33x50 feet; frame construction on stone foundation; shingle roofing; electric wiring and fixtures; sanitary plumbing; hot-water heating system. Burnham & Wells, Builders' Exchange Building, 2 East Lexington street, and John

tion of United Brethren in Christ will erect parsonage. Address The Pastor.

Wilmington, N. C.—Business Building.—L. A. H. Koeth, architect, Room 1, Masonic Temple, has completed plans for the proposed two-story building for Cyrus S. Van Amringe. Structure will be 30x67 feet, with front of white pressed brick and brownstone, sanitary plumbing, electric wiring and fixtures, etc. Bids for the construction work are being received, and contract will be awarded about November 1.

Wilmington, N. C.—Hotel.—Reports state that C. Gresham & Sons will erect hotel at Wrightsville Beach.

Wilmington, N. C.—Hotel.—Hook & Sawyer, Charlotte, N. C., are preparing plans for hotel reported last week to be erected by W. J. Moore of Charlotte, N. C.; structure to be 40x32 feet, with an ell 32x200 feet, of mill construction, electric lights, etc., and cost \$25,000. Bids for erection will be opened June 1, 1906.\*

Wynne, Ark.—Courthouse.—M. T. Lewman & Co. of Louisville, Ky., have contract at \$70,000 for the construction of Cross county's courthouse previously reported; structure to be of gray brick and stone, 66x80 feet.

## RAILROAD CONSTRUCTION.

### Railways.

Abeline, Texas.—The Colorado, Texas & Mexico Railroad is reported to have graded several miles of its line north and south of Abeline and to be preparing its yards here. M. R. Locke of Abeline and others are interested.

Ashburn, Ga.—Engineers are reported to be locating the route for the proposed railroad from Ashburn to Sylvester, and grading and tracklaying are expected to begin soon. Ten miles of the line have been graded and three of track laid for some time.

Baltimore, Md.—Walter H. Tunis, receiver of the Mt. Airy & Eastern Railway of Mt. Airy, N. C., is quoted as confirming the report of its sale to the Wiley-Harker-Camp Manufacturing Co. of New York. The line is 22 miles long, penetrating timber lands. S. A. White of Mt. Airy, N. C., is superintendent.

Bay Minette, Ala.—W. J. Oliver & Co. of Knoxville, Tenn., contractors for the Bay Minette & Fort Morgan Railroad, are reported to have cleared the right of way for 37 miles and to have graded 10 miles. W. W. Olney of Bay Minette is chief engineer, and T. P. Hamm, Chicago, is president.

Birmingham, Ala.—Wright, Williams & Wadley of Birmingham are reported to have secured the contract from the Atlanta, Knoxville & Northern Railroad to build its Westmore, Tenn.-Cartersville, Ga., extension, 88 miles. The work is to be completed in 10 months. R. Montfort is chief engineer of the A., K. & N. (Louisville & Nashville system), with office at Louisville, Ky.

Brookeville, Pa.—The Potomac & Potomac Railroad Co. of New York, which proposes to build a line from Keyser, W. Va., to Maysville, W. Va., 40 miles, is reported to have decided to issue bonds for construction. The United States Leather Co. is said to be interested. Eugene Horton of New York is president of the railroad. James T. Caldwell, Brookeville, Pa., is engineer in charge.

Charleston, W. Va.—The Imboden & Odell Railroad is reported graded for 10 miles up Blue creek from its connection with the Coal & Coke Railway at the mouth of the creek. Tracklaying is to begin soon; total length of line proposed 30 miles, to Belva, W. Va., on the Chesapeake & Ohio Railway. C. P. Peyton is chief engineer at Charleston.

Chicago, Ill.—C. L. Tallmadge, Railway Exchange Building, is reported with others to have organized the Northern Texas Construction Co. to build his proposed railroad in Texas, starting from Canyon City and going toward San Antonio. A dispatch from Austin, Texas, gives the following names in the charter with that of Mr. Tallmadge: Jas. E. Caldwell and E. B. Stahlman of Nashville, Tenn.; Daniel C. Bruntin, E. R. Tallmadge and E. C. Gordon, all of Amarillo, Texas.

Chicago, Ill.—Engineers for the Yazoo & Mississippi Valley Railroad are reported to be surveying for an extension from Greenwood, Miss., to Belzoni, Miss. A. S. Baldwin is engineer of construction at Chicago.

Cincinnati, Ohio.—An officer of the Cincinnati, New Orleans & Texas Pacific Railway writes the Manufacturers' Record that he has no knowledge of any plan to spend \$100,000 to enlarge the yards at Clifton, Tenn.

Columbus, Ohio.—Mr. Wm. E. Hoskett informs the Manufacturers' Record that the Burning Springs Railway, lately incorporated in West Virginia, is one and one-fifth miles long. It connects with the Kanawha & Michigan Railway, and will be used exclusively for hauling coal. The road is almost com-

pleted; V. S. Kilek, manager, 838 Factory street, Columbus, Ohio.

Corpus Christi, Texas.—Johnson Bros., contractors, are reported to be making active progress on the construction of the extension of the St. Louis, Brownsville & Mexico Railway from Robstown to Bay City, about 146 miles. A heavy force of men is engaged at the work.

Dallas, Texas.—The Texas & Pacific Railway will, it is reported, extend the Avoyelles division from Simmesport to Melville, La., about 20 miles. B. S. Wathen is chief engineer.

Enid, O. T.—E. L. Peckham, vice president and general manager of the Denver, Enid & Gulf Railway, is reported as saying that the line may be extended from Guthrie to Oklahoma City, about 20 miles.

Enid, O. T.—Mr. John Overholt, general superintendent of the Denver, Enid & Gulf Railway, writes the Manufacturers' Record that there is no truth in the press report that the company had sold out to the Missouri, Kansas & Texas Railway. He adds: "Work on our northern extension is progressing rapidly, and we expect to be laying steel about November 10."

Hagan, Ga.—The incorporators of the Liberty City, Glennville & Manassas Railway Co., recently chartered to build a line about 30 miles long to connect the three cities, are D. M. Bradley, Sr., J. D. Bradley, D. M. Bradley, Jr., A. I. Hendry of Hagan, Ga.; R. R. Purcell and J. C. Groover of Tattall county, Georgia; H. W. Tipples of Manassas, Ga.; W. H. Bradley of Waycross, Ga., and James K. Hines and Thomas Evans of Atlanta, Ga.

Hattiesburg, Miss.—The Mississippi Central Railroad will, it is reported, soon decide the question of building the extension to Brookhaven from Silver Creek, 30 miles. F. L. Peck is president.

Kansas City, Mo.—The Missouri, Oklahoma & Gulf Railroad is reported incorporated to succeed the proposed Muskogee Union Railroad. William Kenefick of Kansas City and W. P. De War of Muskogee, I. T., are, respectively, president and vice-president. Mr. De War is reported as saying that the line will be built immediately from Joplin, Mo., to the Canadian river, near the M., K. & T. line, and thence to Whitesboro, Texas, with a branch from Henryetta to Shawnee. The total length of line proposed is about 600 miles.

Kansas City, Mo.—The Black Bayou Railroad Co. has been chartered to construct and operate a railroad from Myrtle, La., to Stanley, Cass county, Texas, 25 miles, construction to begin by November 1. The general offices are at Stanley, and the projectors are F. E. Gloyd, A. M. Gloyd, Kansas City, Mo.; W. B. Gloyd, Myrtle, La.; W. A. Campbell, Holden, Mo.; F. S. Veelder and O. B. Shepherd, St. Johns, Kan.; W. M. McGee, Denver, Col.; George H. Burr, Chicago; J. C. Cobb, Odessa, Mo.; D. D. Dodd, Lucy L. Dodd and G. V. Crawford, Atlanta, Texas, and Lola McMichael, Jefferson, Texas.

Kansas City, Mo.—The Guthrie, Fairview & Western Railroad, which is to build a line from Guthrie to Fairview, O. T., 150 miles, is reported to have located its line from Fairview to Kief. Construction is to begin the first of next year. Officers have been elected as follows: W. S. McCaull of Kansas City, president and treasurer; L. Underwood of Kansas City, secretary and general manager; E. H. Schaulfer of Kansas City, vice-president; Horace Speed of Guthrie, second vice-president; directors, Horace Speed and Jos. W. McNeal of Guthrie, W. F. Bort of Kingfisher, Judge James C. Martin of Chicago, J. G. Trimble, L. Underwood, E. H. Schaulfer and W. S. McCaull of Kansas City.

Little Rock, Ark.—A meeting of business men has been held with the view to building a railroad north from Little Rock or else to induce the St. Louis & North Arkansas Railway to extend from Leslie down to Little Rock. George W. Rogers is president of the Board of Trade, where the meeting was held, and George R. Brown is secretary. George L. Sands, vice-president of the St. Louis & North Arkansas, is at Eureka Springs, Ark. The projectors are also in communication with Col. C. C. Godman, who built one or two lines in Arkansas, and who may undertake the plan. The distance from Little Rock to Leslie is 80 miles.

Marshall, Texas.—The Gulf, Texas & Northern Railway is reported to have awarded a contract to the East Texas Construction Co. of Marshall, recently incorporated, and grading is reported begun, 13 miles being completed from Marshall south, while 17 miles are graded from Logansport to Deadwood. L. W. Lloyd is president, and W. C. Pierce, Jr., secretary and treasurer, at Marshall. H. L. Hull is vice-president at Fort Worth. Mr. J. A. Hill, president of the construction

company, writes from South McAlester, I. T., to the Manufacturers' Record confirming the report of the contract and saying that F. C. Hand is engineer in charge at Marshall, Texas.

Marietta, Ohio.—Gen. A. J. Warner, president Crown Mountain Gold Mining Co., writes the Manufacturers' Record that an extension of the Gainesville & Dahlonaga Railroad from Leathers Ford, Ga., to Dahlonaga, Ga., is under consideration, but as yet nothing definite has been determined.

Maysville, Ky.—It is reported that a plan is under way to build a traction line from Maysville via Washington to Germantown, Ky., about 10 miles, and that preliminary survey will soon be made.

Monroe, W. Va.—It is reported that survey will begin in about two weeks for the Monroe Central Railroad, which is to run from the Chesapeake & Ohio Railway at Fort Springs to the Norfolk & Western at Peterstown.

Monroe, La.—It is reported that the Monroe Lumber Co. is back of the Monroe & Southwestern Railroad, which proposes building a line through the parishes of Ouachita, Jackson, Natchitoches and portions of Winn, Caldwell, Grant and Sabine, the route being practically the same as that of the old Monroe & Natchitoches Railroad. Fifteen miles have been graded and nine miles of steel laid, and 20 miles are expected to be finished by the end of the year. The officers of the company are N. C. Chapman of St. Louis, Mo., president; W. A. Brown, Monroe, La., vice-president and general manager; C. Marbes and J. A. Rehles, St. Louis, Mo., secretaries, and Robert Blanks of Monroe, La., treasurer.

Moorefield, W. Va.—J. W. Gilkesson, cashier of the South Branch Valley Bank, and others are reported to be interested in a plan to build a standard-gauge electric railway from Moorefield to Green Springs. Eastern capitalists have been here to confer on the matter. Preliminary surveys reported made.

Morgantown, W. Va.—The Morgantown & Kingwood Railroad is reported to have let a contract to Talbott Bros. of Fairmont to build an extension of two and a-half miles from Bretz to Reedsville.

Mountain Park, O. T.—The El Paso, Mountain Park & St. Louis Railroad has been chartered to build a line 350 miles long from the Red river, in the southwestern part of Oklahoma, to the northeastern boundary of the Cherokee Nation, in the Indian Territory. The incorporators are R. K. Kelley, Mark Roberts, W. P. Bryan, B. Hillyer and A. Osborn.

New Orleans, La.—President C. C. Harvey of the New Orleans & Northeastern Railroad is reported as saying that the company is spending \$300,000 for improvements.

New York, N. Y.—The W. A. Cullen Construction Co., 25 Broad street, informs the Manufacturers' Record about work on the Pamlico, Oriental & Western Railroad in North Carolina as follows: The 5500-foot bridge over the Neuse river is more than 75 per cent. finished. It is expected to have this part ready for train by November 20. About five miles of track are laid and seven miles graded ready for ties and rails. The first 17½ miles into Bayboro, N. C., is expected to be completed by January 1.

Port Norfolk, Va.—Mr. George S. Shafer, superintendent of the Norfolk & Portsmouth Belt Line Railroad Co., writes the Manufacturers' Record that nothing definite has been decided regarding the extension of the Belt Line from Berkley to Sewells Point, Va.

Roanoke, Va.—It is announced that the Norfolk & Western Railway has sold \$5,000,000 of bonds to finance construction, second tracking, yards, replacement of bridges and purchasing new equipment. C. S. Churchill is chief engineer.

Seguin, Texas.—Engineers are reported to be surveying for a line for the proposed electric railway to connect Seguin, New Braunfels and Gonzales, in which plan M. M. Bright of Chicago and James Wells of Gonzales county, Texas, are interested. The road would be about 10 miles long. Rights of way are reported secured, and it is said that construction will begin soon.

St. Augustine, Fla.—The Florida East Coast Railway will, it is reported, build a branch from Orange City to De Land, Fla., about 10 miles. J. R. Parrott is general manager at St. Augustine.

St. Bernard, La.—It is reported that Eastern capitalists are interested in the plan to build an electric railway from New Orleans to St. Bernard, the county-seat of St. Bernard county, about 12 miles. Some of the investors are also interested in the Borgmouthe Realty Co. Franchises and rights of way are about to be secured.

St. Louis, Mo.—Vernard F. Quinzy, promoter of the proposed Missouri, Arkansas & Southwestern Railroad, to be built from a

connection with the Frisco system in Missouri through the zinc territory of Northern Arkansas, is reported as saying that ex-Governor Frank S. Black of New York is head of the company. The line is to run via Hot Springs, Ark., and Mr. Quinzy has appeared before the Business Men's League in its interest.

St. Louis, Mo.—Construction on the Memphis, Helena & Louisiana Railway is reported to be actively progressing northward through Arkansas to reach Memphis. It is a Missouri Pacific line. Track is reported complete for 22 miles north of McGehee, Ark.

Tampa, Fla.—It is reported that plans are under way to build an electric railroad from Tampa to Green Springs, on Tampa bay.

Washington, D. C.—The Delta Southern Railroad contract is reported let to Jones & Brewer of Birmingham, Ala., and grading is under way on 11 miles from Elizabeth, Miss., north. The line is to extend to Kuhn's, Miss., a total distance of 25 miles. W. H. Wells, engineer of construction Southern Railway at Washington, D. C., has charge of the work.

### Street Railways.

Monroe, La.—It is reported that a meeting has been held and plan submitted by Mayor Forsythe for the proposed street railway in Monroe. The line will be built within the city limits, but later may be extended through the suburbs. There will be two lines, entirely belting the city, amounting to 14 miles.

## MACHINERY, PROPOSALS AND SUPPLIES WANTED.

Manufacturers and others in need of machinery of any kind are requested to consult our advertising columns, and if they cannot find just what they wish, if they will send us particulars as to the kind of machinery needed we will make their wants known free of cost, and in this way secure the attention of machinery manufacturers throughout the country. The Manufacturers' Record has received during the week the following particulars as to machinery that is wanted.

Agricultural Implements.—A. G. Cox Manufacturing Co., Greenville, N. C., is in the market for harrow teeth and a carload of plow handles.

Air Compressor.—See "Quarrying Equipment."

Air Compressors.—Chas. T. Lehman, 1901-1903 Powell avenue, Birmingham, Ala., is in the market for steam-driven air compressors, 10-inch steam cylinders, 10-inch air cylinders; 12-inch steam cylinders, 12-inch air cylinders; 14-inch steam cylinders, 14-inch air cylinders; 16-inch steam cylinders, 16-inch air cylinders; 20-inch steam cylinders, 20-inch air cylinders; 22-inch steam cylinders, 22-inch air cylinders; all to be any length stroke; 24-inch steam cylinders, 24-inch air cylinders, 30-inch stroke. Give maker's name, present condition and lowest cash price.

Barrel Machinery.—See "Stave Machinery."

Barrel Material.—Fayetteville White Lime Works, Fayetteville, Ark., is in the market for barrel material.

Blowers.—Harper Machinery Co., Park Row Building, New York, N. Y., is in the market for two either new or second-hand No. 5 Root blowers.

Boat.—See "Sailing Vessel."

Boats.—Cavalleri Ing. Paola, Ferrara, Italy, is in the market for towing vessels operated by two motors coupled together, for weak anthracite gas by respiration, each of 250 to 350-horse-power. Send catalogues, prices, commission, etc., c. l. f. Venice.

Boiler.—Gonos Remedy Co., Rion, S. C., wants boiler. (See "Engine.")

Boilers.—Sealed proposals will be received until October 29 by Board of Public Works, City Hall, Kansas City, Mo., for construction, delivering and erecting two water-tube boilers, each 300 horse-power, at the Quindaro Pumping Station, Kansas, equipped with stokers of the chain-grate type, in accordance with plans and general specifications on file in office of Water Department, Kansas City, Mo. Proposals to be made on printed forms furnished by Board of Public Works. Plans and specifications describing boilers and stokers must accompany bid. Certified check for \$1000, payable to the City Comptroller, must accompany each bid. Usual rights reserved.

Boilers.—Harper Machinery Co., Park Row



Building, New York, N. Y., is in the market for five new or second-hand 80-horse-power high-pressure boilers.

Bottles.—See "Drug-factory Equipment."

Bridge.—Proposals will be opened November 1 for the construction of an iron bridge over the Patapsco river near Annapolis, Md. Plans and specifications may be seen and forms of proposal obtained at the offices of the Baltimore County Commissioners, Towson, Md., and the Anne Arundel County Commissioners, Annapolis, Md.

Building Equipment and Supplies.—Allegheny Construction Co., Gordonsville, Va., wants to correspond with dealers in slag roofing, kick plates and steel corners.

Building Equipment and Supplies.—Tennessee Stove Works, 9 East 8th street, Chattanooga, Tenn., wants to correspond with manufacturers of lumber, brick, roofing, window sashes, etc.

Building Equipment and Supplies.—J. A. & D. I. King, Unadilla, Ga., want prices on iron or felt roofing, siding, etc.

Building Material.—Bob Smith Hardware Co., R. H. Smith, president and general manager, Roncerverte, W. Va., wants prices on building material.

Canning Machinery.—W. S. Chandler, manager Dodge Manufacturing Co., 120 West 3d street, Cincinnati, Ohio, wants to correspond with manufacturers of canning machinery.

Canning Machinery.—The Business Men's Club, San Antonio, Texas, wants to correspond with makers of canning machinery and of machinery for making the cans.

Cement Paint.—See "Paint."

Clock Supplies.—R. D. Cole Manufacturing Co., Newnan, Ga., is in the market for four illuminated or glass clock dials seven feet in diameter, with suitable hands for same.

Coal.—Cavalleri Ing. Paola, Ferrara, Italy, is in the market for 2500 tons of hard coal equal in power to that of Cardiff, England. Price should be c. l. f. Venice.

Coal Plant.—Proposals will be opened December 11 for constructing a plant for handling and storing coal at the New Orleans naval station. Plans and specifications can be seen at said station or will be furnished to bidders on deposit of \$5 and request to the Bureau of Yards and Docks, Navy Department, Washington, D. C., Mordecai T. Endicott, chief of bureau.

Conveying Machinery.—See "Coal Plant."

Conveying Machinery.—Fayetteville White Lime Works, Fayetteville, Ark., is in the market for wire-rope tramways.

Corn Mill.—See "Grist Mill."

Cotton Gin.—J. H. Patterson, Chaires, Fla., wants prices on cotton gins, presses, suction piping and all necessary equipment for ginning and grist mill. (See "Grist Mill." See "Corn Mill.")

Cotton-mill Equipment.—Ed A. Dickenson, Chico, Texas, wants information regarding manufacturing and marketing cotton goods, estimates on cost of equipment, etc.; in fact, full information regarding the industry. He anticipates organizing a \$250,000 company.

Cotton-mill Machinery.—Looms, care Manufacturers' Record, wants several heavy duck looms, 60 to 70 inches in width, suitable for weaving cloth 36 ounces to square yard. State make and location.

Crusher.—Peacock's Iron Works, Selma, Ala., are in the market for a new or second-hand small rock crusher.

Drills.—Fayetteville White Lime Works, Fayetteville, Ark., wants drills.

Drug-factory Equipment.—Gonos Remedy Co., Rion, S. C., wants complete machinery for crushing and grinding roots, leaves, bark, etc., large and small boiling vats (steam), bottles, labels, corks, paper cases, pill machinery, etc.

Electrical Equipment.—Tennessee Stove Works, 9 East 8th street, Chattanooga, Tenn., is in the market for engine and generator, motors, copper wire for electric conductors, etc.

Electrical Equipment.—Harper Machinery Co., Park Row Building, New York, N. Y., is in the market for two belted 500-volt generators, switchboards and instruments for same; new or second-hand.

Electrical Equipment.—John L. Livers, Greenville, N. C., is in the market for four 100-kilowatt railway generators, 550 volts; second-hand.

Electric Locomotive.—See "Railway Equipment."

Electric Wiring.—Penn Bridge Co., Beaver Falls, Pa., wants estimates on electric wiring. (See "Plumbing.")

Engine.—See "Electrical Equipment."

Engine and Boiler.—Board of Trade, West

Point, Miss., wants steam-power plant for laundry. (See "Laundry Machinery.")

Engine and Boiler.—Gonos Remedy Co., Rion, S. C., wants engine and boiler.

Engine.—H. R. Ihrle, Ihrle, Miss., is in the market for gasoline engine and pump.

Engines.—Crossen-Badge Construction Co., 311 Baldwin Building, Springfield, Mo., wants prices on engines.

Filter.—Parkersburg Home Laundry, 409½ 8th street, Parkersburg, W. Va., is in the market for a filter, 500 to 1000 gallons per hour.

Foundry Equipment.—Tennessee Stove Works, 9 East 8th street, Chattanooga, Tenn., is in the market for motor grinders, exhaust tumbling barrels, blowers, cupolas.

Furniture Manufacturers.—Robertson Furniture Co., 312 North Market street, Nashville, Tenn., wants addresses of manufacturers and wholesale dealers in furniture.

Ginning Machinery.—See "Cotton Gin."

Grist Mill.—J. H. Patterson, Chaires, Fla., wants prices on corn mills and grist mills. (See "Cotton Gin.")

Hardware.—See "Nails."

Heating Apparatus.—James Knox Taylor, supervising architect, Treasury Department, Washington, D. C., will open bids November 15 for low-pressure steam-heating apparatus for the United States postoffice building at Kirksville, Mo., in accordance with drawings and specifications, copies of which may be had at office of supervising architect or at the office of the superintendent at Kirksville, Mo., at the discretion of the supervising architect.

Hoisting Equipment.—Harper Machinery Co., Park Row Building, New York, N. Y., is in the market for two 9x12 special hoists; new or second-hand.

Hoisting Equipment.—Crossen-Badge Construction Co., No. 311 Baldwin Building, Springfield, Mo., wants prices on derricks for hoisting.

Hydraulic Press.—Harper Machinery Co., Park Row Building, New York, N. Y., is in the market for large second-hand hydraulic press. State full particulars, such as number of rams, size of plate, maximum pressure, condition, etc.

Ice Machinery.—Atlanta Ice & Coal Co., Atlanta, Ga., wants to purchase 150-ton ice-making plant for refrigerating purposes.

Ice Plant.—Howell Brothers, Thomson, Ga., are in the market for a 10-ton ice plant, and would like to correspond with manufacturers.

Ice Plant.—Geo. M. Brinson, Stillmore, Ga., wants estimates from manufacturers on ice-making plants.

Labels.—See "Drug-factory Equipment."

Laundry Machinery.—Board of Trade, West Point, Miss., wants all machinery necessary for equipment of steam laundry, including power plant and heaters.

Machine-shop Equipment.—See "Machine Tools."

Machine Tools.—W. E. Jamieson, St. Joseph, Mo., wants complete equipment for machine shop, including lathes, planers, shapers, milling machines, drills, etc.

Machine Tools.—Bacon & Collins Supply Co., Inc., Albany, Ga., is in the market for complete equipment for machine shop, such as lathes, drills, boring mills, etc.

Machine Tools.—A. G. Cox Manufacturing Co., Greenville, N. C., is in the market for a good second-hand or new tire-setter.

Machine Tools.—Peacock's Iron Works, Selma, Ala., are in the market for one swing cut-off saw.

Machine Tools.—Harper Machinery Co., Park Row Building, New York, N. Y., is in the market for two outfits for blacksmith shop; new or second-hand.

Mantel Manufacturers.—St. Louis Cypress Co., Ltd., Houma, La., wants addresses of manufacturers of wood mantels.

Motor.—Hagerstown Showcase & Store Furniture Co., Hagerstown, Md., will be in the market for an electric motor.

Nails.—W. J. Moore, Charlotte, N. C., wants bids on galvanized nails.

Oil-well Equipment.—Kentucky Union Oil Co., Beattyville, Ky., is in the market for oil-well machinery and supplies.

Paint.—Frederick W. Embank, Hendersonville, N. C., wants addresses of parties handling a cement used as a paint on cement smooth and pebble-dash houses.

Pill Machinery.—See "Drug-factory Equipment."

Piping.—See "Quarrying Equipment."

Piping.—Roy Lumber Co., Nicholasville, Ky., wants prices on from 2500 to 3000 feet of six-inch water pipe.

Piping.—Harper Machinery Co., Park Row

Building, New York, N. Y., is in the market for either new or second-hand four, three, two and one-and-one-half-inch wrought-iron pipe.

Planing-mill Equipment.—J. A. & D. I. King, Unadilla, Ga., want prices on planer, matcher, rip and resaws.

Plumbing.—Penn Bridge Co., Beaver Falls, Pa., wants estimates on plumbing for two-story building. (See "Electric Wiring.")

Pulverizing Machinery.—See "Drug-factory Equipment."

Pump.—H. R. Ihrle, Ihrle, Miss., is in the market for gasoline engine and pump.

Pumping Engine.—Board of Public Works, City Hall, Kansas City, Mo., will open bids October 29 for construction, erection and delivery of a centrifugal pumping engine at Quindaro Pumping Station, Kansas, to have sufficient power and capacity to pump 25,000,000 U. S. gallons of water in 24 hours from Missouri river into the settling basins at Quindaro station against a combined pressure of 47 feet, with a steam pressure of 150 feet per square inch, in accordance with plans and general specifications on file in office of Water Department of Kansas City, Mo.; proposals to be made upon printed forms furnished by Board of Public Works. Certified check for \$1500 must accompany each bid; also plans and specifications of pumping engine proposed; usual rights reserved.

Pumps.—Crossen-Badge Construction Co., 311 Baldwin Building, Springfield, Mo., wants prices on pumps.

Pumps.—Harper Machinery Co., Park Row Building, New York, N. Y., is in the market for three boiler-feed pumps.

Quarrying Equipment.—O. R. Whitney, 39-41 Cortlandt street, New York, N. Y., is in the market for two derricks with masts 40 feet, boom 35 feet; one belt-driven air compressor, 100 feet air per minute, 90 pounds pressure; one stone-turning lathe, 16 feet between centers, 36-inch face; 500 feet one-and-one-quarter-inch black pipe; two stone-polishing machines.

Railway Equipment.—Charles T. Lehman, 1901-1908 Powell avenue, Birmingham, Ala., wants 10x14-inch or 10x16-inch standard-gauge saddle-tank locomotive suitable for switching; wheels not to be over 36 inches in diameter.

Railway Equipment.—Harper Machinery Co., Park Row Building, New York, N. Y., is in the market for two four-ton electric locomotives, 24-inch gauge; 40 steel side-dump cars, two yards, 24-inch gauge; 200 tons of 30-pound 30-foot rails, angle plates and spikes; new or second-hand.

Railway Equipment.—Burning Springs Railway Co., V. S. Kliek, manager, 898 Factory street, Columbus, Ohio, is in the market for a second-hand switching engine weighing from 15 to 20 tons, standard gauge; must be cheap.

Railway Equipment.—East Texas Construction Co., F. C. Hand, engineer in charge, Marshall, Texas, is in the market for rails and equipment.

Railway Equipment.—J. C. Saxton, 18 Broadway, New York, wants a second-hand 24-inch-gauge electric locomotive, about 20 horse-power.

Railway Equipment.—Jos. E. Bowen, Atlantic Office Building, Norfolk, Va., is in the market for eight miles of 50-pound relaying rails f. o. b. Norfolk.

Railway Equipment.—Peacock's Iron Works, Selma, Ala., are in the market for one standard-gauge 10 to 12-ton locomotive, two miles of 20 to 30-pound rail, with bolts, spikes, splices, etc., either new or second-hand.

Railway Equipment.—A. C. Torbert & Co., 1605 Monadnock Block, Chicago, Ill., wants one Shay geared standard-gauge locomotive, weight about 33 tons. Send full description, advising condition and lowest price.

Railway Generators (Electric).—See "Electrical Equipment."

Roofing.—See "Building Equipment and Supplies."

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Rubber Hose.—Crossen-Badge Construction Co., 311 Baldwin Building, Springfield, Mo., wants prices on rubber hose.

Sailing Vessel.—Gulf States Shipping Co., P. O. Box 397, New Orleans, La., wants a schooner from 200 to 400 tons n. r. of shallow draft; must sail without ballast.

Saw-mill Equipment.—Bob Smith Hardware Co., R. H. Smith, president and general manager, Roncerverte, W. Va., wants saw-mills, engines, thrashers, etc.

Saw-mill Equipment.—Brown & Baldwin, Dawson, Ga., are in the market for a splitter for woodyard.

Stave Machinery.—H. H. Bolton, care Industrial Agent, Mobile, Jackson & Kansas City Railroad, Mobile, Ala., is in the market for machinery for manufacturing barrel staves from pine wood.

Steel Kilns.—Fayetteville White Lime Works, Fayetteville, Ark., wants steel kilns.

Steel Plate.—Hudson & Cook, Ben F. Hudson, manager, Oklahoma City, O. T., will be in the market for 20 to 25 cars of steel, sizes and weights as follows: No. 10, 80x120; No. 8, 30x120, 3-16x36x144; No. 10, 60x120; No. 8, 60x120 and 3-16x60x144; also galvanized plate of corresponding thickness, 30x120 and 36x120 feet.

Steel Wire.—See "Wire Cables."

Tin-can Machinery.—See "Canning Machinery."

Tugboats.—See "Boats."

Water-pipe Equipment.—See "Piping."

Wire Cables.—J. L. Wood, Rocky Mount, Va., wants addresses of makers of best steel wire cables.

Wood Splitter.—See "Saw-mill Equipment."

Woodworking Machinery.—Tennessee Stove Works, 9 East 8th street, Chattanooga, Tenn., is in the market for small band saw.

Woodworking Machinery.—See "Planing-mill Equipment."

## MEXICO.

Broom Factory.—Juan Am. Creel, Chihuahua, Chl., and E. Avila, Monterey, New Leon, will establish a broom factory in Chihuahua. They will also grow the broomcorn to be used and manufacture the handles required.

Copper Mines.—The Mazapil Copper Co., Zacatecas, Jalisco, has filed claims to additional copper lands for development.

Gold and Copper Mines.—J. Conrado Vasquez de Ferrera de Tula, Jalisco, has filed claims to gold, silver and copper mining properties.

Gold and Copper Mines.—Edward S. Potts of Ameca, Jalisco, has filed claims to gold, silver and copper bearing properties.

Gold and Silver Mines.—Juan Sanchez of Paracuaro, Michoacan, has filed claims to gold and silver deposits which he proposes mining.

Magnesia and Silver Deposits.—Rodrigo Delgado of Saltillo, Mexico, has filed claims to magnesia and silver lands which he intends to develop.

Mining Company.—The Compania Minera Exploradora de Minas Chihuahuesas, S. A., has been organized with capital of \$40,000; Juan N. Faudon, president; Dr. Luis de la Garza Cardenas, vice-president; Jose Sanchez, treasurer; George Griggs, secretary; A. Madrigal, Jesus J. Rojas and Silverio Castro, directors, all of Chihuahua, Chl.

Mining Developments.—The Nueva Paz y Anexas Mining Co., San Luis Potosi, S. L. P., has been organized to develop mining properties.

Mining Developments.—A. F. Hall of San Martin Hidalgo, Ameca district, Jalisco, has filed claims to gold, silver and copper mining properties which he intends to develop.

Mining Properties.—William A. Jones, Tapla, Jalisco, has filed claims, intending to develop, on 400 acres of land containing gold, silver, copper, lead and iron.

Reduction Plant.—The Pinos Altos Mines Co., Pinos Altos, Mexico, plans to build a large reduction plant.

## Railways.

Electric Railway.—A dispatch from Guadalajara, Mexico, says that the contract between Governor Ahumada and J. N. Zerfeno of City of Mexico for the first link of the proposed Guadalajara-Morelia Electric Railway has been ratified by the legislature of Jalisco. Work must begin within six months and the line must be completed within four years.

Steam Railroad.—It is reported that a branch is to be built from Tepetango, on the Tula-Pachuca line of the Central Railway, to Ixmiquilpan, to be continued to Zimapan and beyond. The line will pass through the once famous mining districts of Cardonal, San Clemente, Pechuga, Bonanza, Zimapan, San Jose del Oro and Jacala. Mr. Richard Honey, manager of the International Mortgage Bank of Hidalgo and Queretaro, has been granted a concession to build the line.

Street Railway.—D. G. McNell of Denver, Col., is reported to have purchased from John H. Knight of London the street-car lines in the city of Colima, Mexico, and will, it is said, convert them to electricity.

## INDUSTRIAL NEWS OF INTEREST

### Corn and Flour Mill Offered.

Millers or investors likely to be interested in a corn and flour-milling offer are invited to write J. N. Terry, News Ferry, Va. He is offering for sale a 24-barrel flour mill and corn mill with four-foot stone, located in a good grain section.

### Manufacturers Want More Capital.

The owners of an established manufacturing business located in one of the best railroad centers of the South want more capital for their enterprise. Anyone in a position to invest from \$5000 to \$10,000 is invited to write "Central," care the Manufacturers' Record.

### Brown-Corliss Engine Order.

Engine-users should note that the Brown-Corliss Engine Co. of Corliss, Wis., has received contract from the Jones & Laughlin Steel Co. of Pittsburgh, Pa., to furnish a 30x60 x18 tandem compound condensing Corliss engine, replacing another make of engine in rolling mill.

### A New Pipe Organ.

The Chicago organ specialist has just completed an experimental pipe organ in the pattern shops of the Gadsden (Ala.) Car & Machine Co. If this organ proves to be the success it is expected to be, the probability is the company will enter into manufacturing the instrument on a large scale.

### Timber and Mill Plant.

Manufacturers or investors seeking milling property are invited to address W. J. Van Kirk, Samson, Ala. He has for sale 19,000 acres of timber (about 1,000,000 feet), five miles of standard-gauge logging road and 60,000-foot circular-saw mill, dry-kilns, planer, locomotive, etc. This plant is now operating.

### "Best Roofing for All Roofs."

When erecting a structure of any character the kind of roofing to be applied is one of the most important questions arising in the selection of the building materials. Recognizing this, many manufacturers have aimed to meet the requirements of architects, contractors and owners, and offer roofings that embody the best features for protection and durability. The Chatfield & Woods Co. of Cincinnati, Ohio, has been prominent in the manufacture of roofing. It offers what it calls "the best roofing for all roofs," referring to its Faultless Two and Three-Ply Ready Roofing, extra heavy; American Two and Three-Ply Ready Roofing, standard weight; American tarred felt, etc. Write for details regarding the company's products.

### Exceptional Manufacturing Opportunity.

It is not often that manufacturers seeking quarters or investors looking for investment find such an opportunity presenting itself as is the case in the offer of Wm. B. Ehlen. He offers for sale (cash or first-class manufacturing stock) a modern plant. This includes two-story 40x100-foot building, 15x120-foot shed, one-story office, heated by steam; 200-horse-power boiler and engine, dynamo for lighting, artesian water supply, fire protection devices, workmen's dwellings, 10 acres of land, etc. The property is but 20 minutes' ride from center of Baltimore, and has both B. & O. and Wabash at its doors. Those who may want to obtain further details are invited to call on or address Wm. B. Ehlen, 40 West Saratoga street, Baltimore, Md.

### Evidence of Burt Excellence.

The excellence of the product of the Burt Manufacturing Co. of Akron, Ohio, is evidenced by the repeated orders the company receives from the largest industrial establishments. Here are some instances of this fact. The Burt Company lately shipped oil filters and exhaust heads to the United States Steel Corporation, giving the latter company 151 oil filters and 70 exhaust heads obtained from Burt. Another shipment was three 0-1 filters with automatic water separator attachments to the Penn Iron Co., Lancaster, Pa.; a large oil filter sent to the National Steel & Wire Co., New Haven, Conn., which was already using a number of the Burt Company's Cross Oil Filters. Two Warden Oil Filters have been sent to the Lehigh Valley Coal Co., and two 150-gallon filters to La Belle Iron Works, Steubenville, Ohio.

### Cross Engine and Producers for Cotton Mill.

The Power & Mining Machinery Co. of New York has closed a contract with James F. Hooper of Baltimore for a 25x30 two-cylinder engine and two No. 8 suction producers, the plant to be installed in his new cotton mill. The engine as installed will have three rope

pulleys for driving to the floors of the mill, and the shaft will be extended for a flanged coupling, so that another 25x30 two-cylinder engine can be installed at a later date, it being Mr. Hooper's intention to double the mill after the first half is in operation. This is believed by the contractors to be the first installation for cotton-mill work. The order was obtained after a very thorough investigation on the part of Mr. Hooper and his engineer, C. C. Hedrick of the Lowell (Mass.) Machine Co. Mr. Hooper's original plan was to install a steam turbine and electric drive.

### Some Important Modernizing Work.

Messrs. Dodge & Day, engineers, Philadelphia, Pa., have been engaged by the Conkling-Armstrong Terra-Cotta Co., maker of architectural terra-cotta, to engineer the rebuilding and re-equipping of its plant at Wissahickon avenue and Juniata street, Philadelphia, Pa., lately destroyed by fire. The increase in the power plant of the Jeanesville Iron Works Co., Hazleton, Pa., also engineered by Dodge & Day, contemplates the installation of a 75-kilowatt 120-120-volt De Laval steam turbine generator. The equipping of the additional switchboard panel will be done by Walker Electric Co., Philadelphia, Pa. Dodge & Day will also install some 400-horse-power Westinghouse motors, ranging in speed from five-horse-power to 150-horse-power, D. C. 230 V., in the new plant of the Victor Talking Machine Co., Camden, N. J., as well as an Albro-Clem electric-operated freight elevator having a lifting capacity of 7000 pounds at a speed of 40 feet per minute.

### An Emergency Car Brake.

The Emergency Car Brake invented by Henry Fresh, and now owned and manufactured by the Emergency Car Brake Co. of Cumberland, Md., represents the latest improvements in emergency brakes, and is especially adapted to street-railway service on heavy grades and emergency stops on slippery rails. It meets the emergency, in that it is always under complete control of the motorman, and is instantly applied by means of a lever. It is always ready for action, independent of power, and efficient under all conditions of the track. The brake shoes are thrown under the wheels by the use of swing bars, thus getting the pressure direct from the axle center on the rail, and relieves all the strain from the car body or trucks. The brakes are applied under the rear wheels or trucks, which gives the front of the car freedom through curves without derailing the car or throwing the passengers; double-track cars are provided with a circle drawbar to give the truck swing on curves. Write the company for further facts.

### O'Connor & Schweers Paints.

One of the many products in large demand in connection with the industrial advancement of the South, as well as that of other sections of the country, is paints. There are many kinds of paints on the market, but it is only the best possible paints that build up a reputation which is maintained and causes dealers and users to be constantly ordering additional supplies from the manufacturer. Southern paint factories have been established, and play an important part in the trade. Among them is the O'Connor & Schweers Paint Co. of Augusta, Ga. This company manufactures its mixed paints, first grinding in oil, then mixing, and afterwards grinding through fine mills. The quality is such that it is claimed two coats are equal to four of most other paints. O'Connor & Schweers products include paints for all purposes—household, agricultural, wagon, machinery, building, etc.; also cold-water paints, graphite paints, varnish stains, liquid and paste fillers, enamels, white lead, linseed oil, dry colors, wall coating, paint supplies, etc. Write for descriptive price-lists.

### Big Electric-Wiring Contract.

The Dan River Power & Manufacturing Co., Danville, Va., has awarded contract to the Standard Electric Co. of Norfolk, Va., at about \$10,000 for wiring up its new mills for incandescent lighting. This company is a \$2,500,000 enterprise, developing 6000-horse-power on the Dan river. The Standard Electric Co. has just completed the installation of the electrical machinery and equipment for power of the Dan river plant, and the above is for the lighting of the mills. The machines in the mills are driven by motors, so that when one machine is stopped the balance of the machinery goes on, thus effecting great economy in operation. The Standard Company is also pushing the work on the street railway of the Norfolk City & Suburban Railroad, which is to develop the Norfolk Highlands, one of the prettiest residential sections in that section. The equipment

will be high-grade and first-class, and a fast schedule will be maintained when the road is completed. At the Standard's Charlotte (N. C.) repair shops for electrical equipment there is great activity under management of H. D. Winn, district superintendent of construction.

### Mosaic Work by Calkins Company.

Mosaic work is now very generally called for. It is specified in all classes of structures, and the most experienced and careful workers usually receive the contracts. One of the most complete establishments for mosaic work is located in Baltimore. It is a thoroughly-equipped model mosaic shop, in which is manufactured every style of marble mosaic work for floors, walls, ceilings, etc. There is also carried a stock of all kinds of American manufacture of glazed and enamel tiles for wall work, besides encaustic vitrified and ceramic tiles for floor work, interior marble for wainscoting toilet-rooms, structural slate (Pennsylvania and Vermont stock), etc. The establishment referred to is that of the S. H. Calkins Co., 208 North Liberty street, Baltimore, Md. This company is under the management of the man for whom it is named, and whose experience in this kind of work has been long and varied, enabling him to compete successfully with the most prominent other companies. The company has completed considerable important work in Baltimore and throughout the South. Its recent contracts included nine government buildings in Wisconsin, Maryland, Vermont, Florida and Tennessee; banks in Atlanta, Columbus, Augusta, Washington, Birmingham, Baltimore, San Antonio; hotels and apartment-houses in Baltimore, Richmond, Washington and San Angelo; hospitals, prominent structures of other kinds, etc., in all parts of the South, from Maryland to Texas. The Calkins Company is also representing the Meade Roofing & Cornice Co. of Philadelphia, Boston and New York, contractors for all styles of tile and slag roofing.

## TRADE LITERATURE.

### The H. B. Underwood Key Ring.

One of the neatest and most useful of advertising novelties recently distributed is the key ring sent out by Messrs. H. B. Underwood & Co. It is small and practical. Attached to it is a celluloid tag, between the two parts of which the owner of the key ring can write his name and address. The outside of the tag presents the business card of Messrs. H. B. Underwood & Co., general machinists, 10-25 Hamilton street, Philadelphia.

### American Pumps and Compressors.

The American Steam Pump Co. of Battle Creek, Mich., has issued a new leaflet, presenting facts regarding its power pumps and air compressors. This little publication will interest all users and dealers. In addition to the American line of belt-driven pumps and air compressors described and illustrated in the leaflet, the company is prepared to furnish other designs, including direct-connected electrically-operated types, also direct-acting steam pumps for every service.

### "Fostoria" Incandescent Lamps.

It is a well-known fact that in order to obtain the best results in lighting by electricity one of the important points is to use the best incandescent lamps. The manufacture of incandescent lamps has been made a specialty by the Fostoria Incandescent Lamp Co. of Fostoria, Ohio, and its products have earned a great reputation for results. Current literature issued by the company gives the facts about "Fostoria" lamps, including the "Meteor," the "Fostoria Tipless" and others. Write for descriptive price-lists.

### A Treatise on Steam Turbines.

The subject of steam turbines is one which interests engineers all over the world. In our country considerable progress has been made in the practical use of turbines. A paper presented before the mechanical section of the Engineers' Society of Western Pennsylvania on October 11 at 410 Penn avenue, Pittsburg, contained valuable information concerning turbines. It has been printed in pamphlet form under the title of "Description of Well-Known Types of Steam Turbines, With Special Reference to the Westinghouse-Parsons." It is fully illustrated, and presents a number of diagrams to elucidate the text. R. N. Ehrhart is the author.

### The Science of Fire Protection.

The United States Sprinkler Bulletin is a publication devoted to the science of fire protection. It is replete in each quarterly issue with facts and figures regarding the best modern devices for protecting industrial buildings and all other structures from damaging fires by quenching blazes in their in-

ciency. In the latest number are some interesting facts as to the saving of the Reynolds Tobacco Co.'s factory at Danville, Va., last June by open sprinklers and the water curtain. Many other valuable points of information for those seeking to protect their buildings are also presented. The General Fire Extinguisher Co. of Providence, R. I., can furnish copies of the Bulletin.

### Mississippi Wireglass at St. Louis.

One of the many industrial exhibits at St. Louis which is attracting much attention is that of the Mississippi Glass Co. and its associates, the Mississippi Wireglass Co. and the Appert Glass Co. It presents a crystal pavilion showing the modern wireglass used for all classes of buildings, and more especially business and manufacturing structures, in order to protect from fire damage. The great value of wireglass in window application is well known and becoming better known every day. The companies have issued an illustrated pamphlet giving the details regarding the exhibit. Write the Mississippi Wireglass Co. at 277 Broadway, New York, and ask for one. It will interest all owners of buildings, architects, contractors and others.

### This Land of Ours.

A booklet that no one can read without being very much pleased that it was brought to his attention is "This Land of Ours." Its publication was prompted by the St. Louis Exposition. In its pages are illustrations and terse descriptions of such historic events as the purchase of the Louisiana territory from France, the establishment of the city of Chicago, the founding of Washington, besides pictures and descriptions of the Yellowstone Park, etc., and Niagara Falls, including a most interesting reference to the utilization of the power of the falls for industrial purposes and the manufacture of Carborundum, the great artificial abrasive material, and the multitude of articles made of it. The booklet is a reprint from the World's Work. It is issued by the Carborundum Company of Niagara Falls, N. Y.

### Monarch Corn and Feed Mills.

The steady and increasing demand for corn and feed mills and other equipment of that character causes manufacturers to be constantly on the alert to improve their mill machinery. In keeping pace with this demand the Monarch Mill & Supply Co., 1335 Monadnock Building, Chicago, Ill., has been prominent. The company has issued an illustrated leaflet giving all the facts regarding its mills and explaining in what they are claimed to be superior to other makes. The "Monarch" mills are heavy, strong and durable. They are burr mills for grinding speices of all kinds, cornmeal and feed, etc.; in fact, anything that can be ground on a burr mill. Attrition and French burr feed and meal mills and special milling machinery will also be found in the "Monarch" line. Users of or dealers in this class of machinery will find it to their advantage to investigate by corresponding with the company.

### "On the Track."

Under the title of "On the Track" there has been issued a little booklet which aims to "put on the track" anyone who has anything to do with industrial enterprises; that is, to put them on the track of how to economize and facilitate the handling of materials in and around manufacturing and other establishments. Industrial railways is the subject. The booklet sets forth the use of narrow-gauge railway material, also of standard-gauge materials, and its text, by Ernest Wiener (manager of Arthur Koppel), contains some valuable facts for the perusal of those who may be interested in this class of equipment. Moreover, those who are not interested will find it to their advantage to read and thus become acquainted by realizing the value of industrial railways. Copies may be obtained by addressing Arthur Koppel, 66 Broad street, New York, manufacturer of industrial, narrow and standard-gauge railway materials. Koppel material is used throughout the world.

### Concerning Hardwood Flooring.

The demand for hardwood floors is becoming so large that it would seem they are an absolute necessity, not only from the standpoint of durability, but on account of the sanitary conditions and furnishing effect produced by their use. In order to give the trade a flooring at a minimum price, the Nashville Hardwood Flooring Co. of Nashville, Tenn., was organized, and has established a most modern plant. The company's mill is supplied with the latest machinery for making hardwood flooring, besides rip saws, band saws, boring machines, end matchers, etc., for producing a flooring with a well-machined surface, dressed and matched, hollow-backed, end-matched with holes bored for blind nailing, reducing the expense to a



minimum. Any lengths, however short, can be utilized, since end-matched flooring laid on joists or strips or on a subfloor is practically one piece. The Nashville Hardwood Flooring Co. has issued a booklet giving full details regarding its flooring, and invites requests for one.

#### The Cement Age.

Cement construction is nowadays employed by the best engineers in the most important work—for buildings, tunnels, bridges, dams, etc. Interesting and valuable facts regarding cement are presented each month in *The Cement Age*, published by Messrs. Bruce & Johnston, 42 Broadway, New York. For September the magazine is more than usually

interesting and valuable. This is a somewhat notable number, in that the publishers have secured an article from the chief and all the division engineers of the New York Rapid Transit Commission on the uses of concrete in the subway. It seems these articles are not only of technical, but also of great general interest. The main point which is brought out more forcibly in Mr. Rice's article than elsewhere is that the reason the subway is completed today instead of taking another year is that it was built of concrete instead of brick, thus obviating to a very large degree troubles necessarily resulting from the employment of skilled labor. This factor, together with the greatly-reduced cost

[Continued on Page 348.]

## FIFTEENTH ANNUAL REPORT

OF THE

## DIRECTORS

OF

# The Wabash Railroad Co.

For the Fiscal Year Ending June 30, 1904.

St. Louis, Mo., October 1, 1904.

TO THE BOARD OF DIRECTORS

THE WABASH RAILROAD COMPANY,

MR. GEORGE J. GOULD, Chairman:

Dear Sir—The report for the year ending June 30, 1904, which I have the honor of submitting herewith, while showing a large increase in gross earnings, \$1,882,797.69 (this being the seventh year of continuous increases, 1904 showing an increase of \$11,496,839.27 over 1897), also shows that this increase in earnings was offset by a corresponding increase in expenses.

The conditions affecting operating expenses during the past year were, to a certain extent, unusual; in fact, abnormal.

A. In April, 1903, wages of trainmen on the Western Division were advanced 12 and 15 per cent., and promises made which resulted in a similar advance on the Middle Division, these two advances covering two-thirds of the System. In addition, wages of engineers and firemen, shopmen and other classes of labor were more or less advanced. The total increase in expenses due to these changes in rates of pay and rules of service aggregated about \$400,000.

B. During January, February and March and part of April we had the severest winter, with lowest temperature and worst storms, all over the System, than ever known in the history of the Company, not only reducing the earnings, but largely increasing the expenses of operation.

C. The cost of fuel for the first 10 months of the year was higher than ever before, being nearly 30 per cent. more than the previous year.

D. The work of preparing the line for the World's Fair traffic was pushed vigorously, and added largely to the expense account. The detailed statements of expenses will clearly show what was done in this line.

During the past four years the reduction of grades and improvement of the line between St. Louis and Chicago have been under way, and are now practically completed, so that trains northbound can be made up for a ruling grade of 21 feet per mile, instead of from 50 to 60 feet per mile. The cost of the work to date has been \$617,300, and the results as follows:

Curves removed.....	18
Degrees of curvature removed.....	388° 53'
Length of curved line removed.....	2 1/4 miles.
Mileage of grades changed.....	31.3 miles.
Line shortened.....	1/2 mile.
Highway grade crossings removed.....	9
Railroad grade crossings removed.....	1
Trainloads increased from an average of 1100 tons to.....	1850 tons.

During the year, in order to comply with the requirements of the statutes of some of the States through which our System passes, it was necessary to increase the capital stock of the Company to such amount as would make it equal the bonds authorized, and the stockholders on March 22, 1904, added \$50,000,000 to the Common Stock.

THE WABASH PITTSBURG TERMINAL RAILWAY COMPANY.

In 1901 the stockholders of the Company authorized the officers of the Company to enter into certain trackage and traffic agreements with the Wheeling & Lake Erie Railroad Company and the Pittsburg, Car-

negie & Western Railroad Company to secure the construction of a line of railroad from a point on the Wheeling & Lake Erie Railroad near Jewett, Ohio, to Pittsburg, with necessary terminals and connecting railways in Pittsburg, with a close traffic alliance between the three contracting railroads, so as to practically make them one system. This agreement was afterwards modified, and the amended agreement provided that the Wabash and Wheeling & Lake Erie Companies should, if it became necessary so to do, pay 25 per cent. (or so much thereof as might be required to meet any deficit on the bonds of the Wabash Pittsburg Terminal Railway Company) of the gross earnings of either Company from traffic which they received from or delivered to the Wabash Pittsburg Terminal Railway. This condition puts no burden on either Company, as they will not be required to pay anything unless they have increased earnings on account of the Wabash Pittsburg Terminal Railway lines.

The Pittsburg, Carnegie & Western Railroad Company, through consolidation with the Cross Creek Railroad in West Virginia and the Pittsburg, Toledo & Western Railroad in Ohio, became the Wabash Pittsburg Terminal Railway Company, and the latter Company has carried out or is carrying out all the obligations assumed by the Pittsburg, Carnegie & Western Railroad Company.

On July 2, 1904, the line was opened for through passenger traffic and through train service between St. Louis, Chicago and Pittsburg by Wabash trains.

The Wabash Pittsburg Terminal Railway Company also purchased a controlling stock interest in the Wheeling & Lake Erie Railroad, thus owning and controlling some 550 miles of railway lines, reaching from Pittsburg to Toledo, Cleveland, Wheeling, Steubenville and Zanesville, the greatest freight tonnage territory in the world, the Pittsburg district alone last year consuming and shipping over 86,000,000 tons of coal, coke, ores, iron, steel, manufactures and merchandise.

A proposition was submitted to your Board for the purchase by the Wabash Company of all the stock of the Wabash Pittsburg Terminal Railway Company (\$10,000,000), by the issuance of \$10,000,000 Wabash common stock in exchange therefor. As the ownership of the stock of the Wabash Pittsburg Terminal Railway Company carried with it the controlling interest in the Wheeling & Lake Erie Railroad, your Board authorized the purchase, and the exchange of stocks was made.

Your Board, at the same time, authorized the purchase of \$6,600,000 First Mortgage Bonds of the Wabash Pittsburg Terminal Railway Company for \$6,000,000. This purchase was made and paid for through the issuance of a three-year obligation, secured by the \$6,600,000 of bonds as collateral.

It is confidently expected that the control of these properties and of the traffic secured to the Wabash thereby will add largely to the revenues of the Company.

The outlook for the fiscal year ending June 30, 1905, is excellent. Our passenger traffic is enormous, and will remain so until the end of the Exposition, November 30, and the freight traffic, while below last year's (1903), is still above 1902, and I look for improvement in it before the end of the year. The gross earnings will exceed \$24,000,000 for the year.

The condition of the property—tracks, roadbed, bridges, stations, rolling stock and motive power—has been greatly improved during the year. The extent of this work will be shown by the detailed statement herein of principal replacements and improvements.

#### STATISTICS.

The following statement gives in condensed form the revenues, expenses, charges, etc., for the fiscal year as compared with the previous year:

	1903-1904.	1902-1903.
Total revenue of the Company from all sources was.....	\$23,513,332 70	\$21,608,756 88
Expenses of Operation, including taxes, track rentals and miscellaneous.....	19,250,873 18	17,350,805 40
Interest on Bonds.....	\$4,262,459 52	\$4,257,951 48
	3,092,422 72	3,034,512 60
Net Revenue.....	\$1,170,036 80	\$1,223,438 88
Additions to Property.....	591,446 10	253,182 15
Sinking Fund Charges, account new equipment; steamers.....	\$578,590 70	\$970,306 73
	469,239 54	554,156 65
Dividend on Debenture "A" Bonds.....	\$119,291 16	\$406,150 08
	105,000 00	210,000 00
Surplus to Profit and Loss Account.....	\$14,291 16	\$196,150 08

The growth of the traffic and revenues since 1897 is shown by the following comparisons:

Year.	Ton Miles.	Passenger Miles.	Gross Earnings.
1897.....	1,149,989,024	135,963,860	\$11,526,737 00
1898.....	1,365,693,174	180,359,167	13,207,582 00
1899.....	1,666,830,054	210,592,939	14,393,974 00
1900.....	1,902,881,278	233,848,065	16,440,990 00
1901.....	1,978,962,463	264,268,214	17,554,465 00
1902.....	1,947,404,142	322,708,490	19,053,493 00
1903.....	2,198,073,383	330,111,942	21,140,829 00
1904.....	2,175,680,058	369,283,834	23,023,626 00

The increases in different classes of earnings were:

	1897.	1904.	Per Cent. Increase.
Freight.....	\$7,804,739 95	\$14,064,656 81	81.9%
Passenger.....	2,857,973 54	7,045,525 29	145.7%
Mails.....	542,635 09	830,923 23	53.1%
Express.....	284,706 69	533,703 85	87.4%
Miscellaneous.....	256,702 09	548,812 45	113.8%
Total.....	\$11,526,787 36	\$23,023,626 63	99.8%

#### REVENUES, EXPENSES AND TRAFFIC.

##### EARNINGS AND EXPENSES.

	1903-1904.	1902-1903.	Increase.
Gross Earnings.....	\$23,023,626 63	\$21,140,828 94	\$1,882,797 69
Operating Expenses.....	17,683,508 85	15,815,662 32	1,867,846 53
Net Earnings.....	\$5,340,117 78	\$5,325,166 62	\$14,551 16
Per Cent. of Operating Expenses to Earnings.....	76.81	74.81	2.00
Gross Earnings per mile.....	\$9,148 34	\$8,513 20	\$635 14
Operating Expenses per mile.....	7,026 47	6,368 81	657 66
Net Earnings per mile.....	\$2,121 87	\$2,144 39	*\$22 52

##### EARNINGS.

	Per Cent.	1903-1904.	Per Cent.	1902-1903.	Increase.
Freight.....	61.09	\$14,064,656 81	63.04	\$13,327,478 75	\$737,178 06
Passenger.....	30.60	7,045,525 29	29.02	6,135,500 85	910,024 44
Mails.....	3.61	830,923 23	3.39	716,200 09	114,723 14
Express.....	2.32	533,703 85	2.20	464,645 19	69,058 66
Miscellaneous.....	2.28	548,812 45	2.35	497,004 06	\$51,808 39
Total.....		\$23,023,626 63		\$21,140,828 94	\$1,882,797 69

##### EXPENSES.

	Per Cent.	1903-1904.	Per Cent.	1902-1903.	Increase.
Maintenance of Way and Structures.....	20.82	\$3,681,608 00	22.40	\$3,700,961 69	*\$19,353 69
Maintenance of Equipment.....	19.64	2,473,001 68	19.60	3,114,663 95	358,337 72
Conducting Transportation.....	56.43	9,978,628 79	53.82	8,511,277 61	1,467,351 18
General Expenses.....	3.11	550,270 38	3.09	488,759 07	\$61,511 31
Total.....		\$17,683,508 85		\$15,815,662 32	\$1,867,846 53

#### TRAFFIC.

##### FREIGHT.

The freight traffic statistics show a decrease of 22,393,325 (1.02 per cent.) in "tons revenue freight carried one mile," at an average rate of 0.6464 cents per mile, an increase of 0.0401 cents (6.61 per cent.), at a cost per ton mile of 0.5400 cents, an increase of 0.0708 cents (15.09 per cent.), leaving a net profit of 0.1064 cents as compared with 0.1371 cents last year, a decrease of 0.0307 cents (22.39 per cent.)

The average revenue per freight train mile was \$1.8510; expense per mile \$1.5463, and net earnings \$0.3047, against \$1.8297, \$1.4159 and \$0.4138, respectively, last year.

The total freight train mileage was 7,598,295, an increase of 314,137, or 4.31 per cent.

The loaded cars per train decreased 0.16 cars; the load per car decreased 0.68 tons, and the revenue train load was 286.34 tons, against 301.76 tons last year, a decrease of 15.42 tons, 5.11 per cent. For the years 1895 to 1904 the revenue train load and load per car have been as follows:

Year.	Train Load.	Car Load.
1895.....	176.29 tons.	13.37 tons.
1896.....	193.04 "	13.80 "
1897.....	212.87 "	14.00 "
1898.....	216.55 "	14.16 "
1899.....	234.72 "	16.02 "
1900.....	238.94 "	16.02 "
1901.....	283.47 "	16.67 "
1902.....	284.66 "	16.69 "
1903.....	301.76 "	17.82 "
1904.....	286.34 "	17.14 "

The actual train load, including company freight, was 315.94 tons, against 331.29 tons last year.

The increase in train load over 1895 has been 110.05 tons (62.42 per cent.), and car load has increased 3.77 tons (28.20 per cent.)

In the preparation of train statistics all loaded cars, whether "revenue" freight or "company" freight, are included in "loaded cars per train."

With a decrease of 1.02 per cent. in "services rendered," i. e., "tons carried one mile," there was an increase in freight revenue of \$737,178.06 (5.53 per cent.), with an increase of \$1,435,666.58 (13.92 per cent.) in expenses of freight traffic. While the increase in freight tonnage was 7481 tons (0.08 per cent.), the increase in freight train service was 4.31 per cent.

##### PASSENGER.

"Passengers carried one mile" increased \$39,171,892 (11.87 per cent.), and in revenue \$910,024.44 (14.83 per cent.). There was an increase of 43,915.70 on the Buffalo Division, and an increase of \$866,108.74 on the Wabash proper.

The rate per passenger per mile was 1.908 cents, an increase of 0.049 cents, and expenses per passenger per mile 1.607 cents, a decrease of 0.060 cents, leaving 0.301 cents per mile net, as against 0.192 cents last year, a gain of 56.77 per cent.

Train earnings per mile were \$1.0592, a gain of 9.08 cents; the expenses were 73.26 cents per train mile, an increase of 1.94 cents, and net earnings per train mile were 32.66 cents, against 25.52 cents in 1903.

The "passengers carried one mile" increased 11.87 per cent., while the cost of passenger train service increased 7.85 per cent., and the actual number of passengers carried was 6,183,474, an increase of 234,561 (3.94 per cent.)

Statistics of freight and passenger traffic show the earnings divided between the two classes of traffic as follows:

Freight train gross earnings.....	\$14,064,656 81	(62.11%)
Passenger train gross earnings.....	8,580,184 02	(37.89%)
Freight train net earnings.....	2,315,574 81	(46.67%)
Passenger train net earnings.....	2,645,757 17	(53.33%)

Passenger train earnings include mail, express, etc.

#### THE WABASH RAILROAD COMPANY.

##### FINANCIAL EXHIBIT—JUNE 30, 1904.

(Per Condensed Balance Sheet.)

ASSETS.		1904.	1903.	Increase.	Decrease.
Cost of Road and Equipment (1).....		\$145,335,419 36	\$143,882,500 00	\$1,452,919 36	
Supplies and Materials on Hand.....		1,641,051 84	1,244,803 46	396,248 38	
Cash on Hand.....		1,182,777 23	987,034 96	195,742 27	
Investments in Stocks and Bonds (2).....		17,661,089 14	1,553,020 34	16,108,068 80	
Sundry Accounts Collectible—					
Due from Agents.....		343,328 54	520,891 43		\$177,562 89
From United States, Carrying Mails.....		299,096 67	179,975 79	119,120 88	
Pacific Express Co.....		105,215 00	61,621 59	43,593 41	
Sundry Railroads and Individuals.....		1,546,286 94	613,497 20	932,889 74	
Bills Receivable.....		1,575 00	53,239 27		\$51,664 27
Advances Past Freight Lines Account					
Working Fund.....		37,973 10	43,004 74		5,031 64
Advances on Account Real Estate in St. Louis.....		634,088 96	1,033,524 81		399,435 85
Miscellaneous (3).....		3,494,001 12	659,089 38	2,834,911 74	
Total.....		\$172,192,302 90	\$150,832,202 97	\$21,360,099 93	
LIABILITIES.		1904.	1903.	Increase.	Decrease.
Common Stock.....		\$28,000,000 00	\$28,000,000 00	\$10,000,000 00	
Preferred Stock.....		24,000,000 00	24,000,000 00		
Bonds (4).....		100,513,000 00	91,949,000 00	8,564,000 00	
Interest Due.....		270,171 59	186,493 25	83,678 34	
Interest Accrued, not Due.....		693,361 66	696,885 83		\$3,524 17
Dividends Debenture Bonds, Series "A,"					
Due.....			105,000 00		105,000 00
Sundry Accounts Payable—					
Vouchers and Pay-Rolls.....		3,734,692 89	2,738,405 58	996,287 31	
Sundry Railroads and Individuals.....		356,055 38	466,607 12		110,551 74
Taxes Accrued, not Due.....		388,877 00	386,337 60	2,539 40	
Hospital Account.....		5,986 20	5,183 00	803 20	
Bills Payable.....					
Notes Payable.....		414,000 00	22,286 66	390,713 34	
Equipment Notes of Long Date (5).....		2,311,036 96	583,030 32	1,728,006 64	
Proceeds Sale Debenture Bonds, Series "B".....		369,237 50	369,237 50		
Equipment Fund Account.....			311,969 80		311,969 80
Miscellaneous.....		41,576 18	40,871 82	704 36	
Balance to credit Profit and Loss.....		1,094,307 54	969,994 49	124,313 05	
Total.....		\$172,192,302 90	\$150,832,202 97	\$21,360,099 93	

(1) Increase is due to cost of new Terminals in St. Louis, \$1,527,000; less Gold Equipment Sinking Fund Bonds retired, \$100,000.

(2) Increase is due to investment in Capital Stock of the Wabash-Pittsburg Terminal Railway, \$10,000,000, and First Mortgage Bonds of the Wabash-Pittsburg Terminal Railway, \$6,154,000.

(3) Increase is due to amounts carried in suspense on account of purchase of new equipment.

(4) Increase is due to issue of Wabash Railroad First Lien 4 Per Cent. Terminal Gold Bonds, \$1,664,000; Wabash Railroad Equipment Gold Bonds, Series A, \$840,000; Wabash Railroad Temporary 5 Per Cent. Collateral Notes, \$6,160,000; less Gold Equipment Sinking Fund Bonds retired, \$100,000.

(5) See Note 3.

#### THE WABASH RAILROAD COMPANY.

##### TRAIN AND MILEAGE STATISTICS.

	Year ending June 30, 1904.	Year ending June 30, 1903.	Per cent. Increase.	Decrease.
<b>FREIGHT:</b>				
Tons Carried, Revenue Freight.....	9,698,996	9,691,514	0.08	
Tons Carried, Company Freight.....	2,013,016	1,833,755	9.78	
Total Tons Carried.....	11,712,011	11,525,269	1.62	
Tons Carried One Mile, Revenue Freight.....	2,175,680,068	2,198,073,383		1.02
Tons Carried One Mile, Company Freight.....	224,937,904	215,088,765	4.58	
Total Tons Carried One Mile.....	2,400,617,972	2,413,162,148	0.52	
Average distance each Ton carried.....	206.0 miles.	209.4 miles.	2.10	
Earnings from Freight Traffic.....	\$14,064,656 81	\$13,327,478 75	5.53	
Operating Expenses.....	11,749,082 00	10,313,415 42	13.92	
Average Earnings per Ton.....	\$1 45.01	\$1 37.52	5.45	
Average Expenses per Ton.....	1 21.14	1 06.42	13.83	
Average Rate per Ton per Mile.....	Cts. 0.6464	Cts. 0.6063	6.61	
Average Expenses per Ton per Mile.....	Cts. 0.5400	Cts. 0.4692	15.09	
Average Net per Ton per Mile.....	Cts. 0.1064	Cts. 0.1371	22.39	
Total Freight Train Mileage.....	7,598,295	7,284,158	4.31	
Average Earnings per Train Mile.....	\$1 85.10	\$1 82.97	1.16	
Average Expenses per Train Mile.....	1 54.63	1 41.59	9.21	
Average Net Earnings per Train Mile.....	0 30.47	0 41.38	26.37	
Car Mileage, Loaded.....	140,074,003	135,424,005	3.43	
Car Mileage, Empty.....	52,644,523	52,573,824	0.13	
Car Mileage, Total—Loaded and Empty.....	192,718,526	187,997,829	2.51	
Average Loaded Cars per Train.....	18.43	18.59	0.86	
Average Empty Cars per Train.....	6.93	7.22	4.02	
Average Total Cars per Train.....	25.36	25.81	1.74	
Average Load per Loaded Car—Tons.....	17.14	17.82	3.82	
Average Load per Car, Loaded and Empty—Tons.....	12.46	12.84	2.96	
Average Load per Train—Tons—Including Company Freight.....	315.94	331.29	4.63	
Average Load per Train—Tons—Revenue Freight only.....	286.34	301.76	5.11	
Average Earnings per Loaded Car per Mile.....	Cts. 10.04	Cts. 9.84	2.03	
Average Expenses per Loaded Car per Mile.....	Cts. 8.39	Cts. 7.62	10.10	
<b>PASSENGER:</b>				
Number of Passengers carried.....	6,183,474	5,948,913	3.94	
Number of Passengers carried One Mile.....	369,283,834	330,111,942	11.87	
Average distance each Passenger carried.....	59.7 miles.	55.5 miles.	7.57	
Earnings from Passenger Traffic.....	\$7,045,525 29	\$6,135,500 85	14.83	
Earnings, including Mail, Express, etc.....	8,580,184 02	7,470,962 22	14.85	
Operating Expenses.....	5,934,426 85	5,502,246 90	7.85	
Average Revenue per Passenger.....	\$1 13.94	\$1 03.14	10.47	
Average Cost carrying each Passenger.....	0 95.97	0 92.49	3.76	
Average Rate per Passenger per Mile.....	Cts. 1.908	Cts. 1.860	2.64	
Average Cost per Passenger per Mile.....	Cts. 1.607	Cts. 1.667	3.60	
Average Net per Passenger per Mile.....	Cts. 0.301	Cts. 0.192	56.77	
Total Passenger Train Mileage.....	8,100,348	7,715,162	4.99	
Average Earnings per Train Mile.....	\$1 05.92	\$0 96.84	9.38	
Average Expenses per Train Mile.....	0 73.26	0 71.32	2.72	
Average Net Earnings per Train Mile.....	0 32.66	0 25.52	27.98	
Car Mileage—Coaches and Sleepers.....	28,619,997	27,128,690	5.50	
Total Car Mileage, including Baggage, Mail, Express and Sleepers.....	37,722,660	36,134,240	4.40	
Average number Cars per Train.....	4.66	4.68	0.43	
Average number Passengers per Coach and Sleeper.....	12.90	12.17	6.00	
Average number Passengers per Train.....	45.59	42.79	6.54	
Average Earnings per Car per Mile.....	Cts. 22.75	Cts. 20.68	10.01	
Average Expenses per Car per Mile.....	Cts. 16.73	Cts. 15.23	3.28	



## SOUTHERN RAILWAY COMPANY.

## TENTH ANNUAL REPORT.

New York, October 1, 1904.

To the Stockholders of the Southern Railway Company:

The President and Board of Directors submit the following report of the operations of the Company for the year ended June 30, 1904:

## INCOME ACCOUNT.

	1904.	1903.	Increase.
Gross earnings from operation.....	\$45,109,777 34	\$42,354,059 76	\$2,755,717 58
Operating expenses and taxes.....	\$3,115,467 12	\$3,989,139 88	2,126,327 24
Net earnings from operation.....	\$11,994,310 22	\$11,364,919 88	\$629,390 34
Income from other sources.....	1,386,181 01	1,211,261 32	185,919 69
Total income.....	\$13,380,491 23	\$12,576,181 20	\$804,310 03
Interest and rentals.....	\$8,962,328 58	\$8,446,040 60	\$506,287 98
Other deductions from income.....	256,762 73	287,663 54	Dec. 30,900 81
Total deductions.....	\$9,269,091 31	\$8,733,704 14	\$475,387 17
Surplus income over charges.....	\$4,111,399 92	\$3,842,477 06	\$337,922 86
Dividends on preferred stock:			
No. 11, 2 1/2 per cent., paid in April, 1903; No. 13, 2 1/2 per cent., paid in April, 1904.....	\$1,500,000 00	\$1,500,000 00	
No. 12, 2 1/2 per cent., paid in October, 1903, and reserve for Dividend No. 14, 2 1/2 per cent., payable in October, 1904.....	1,500,000 00	1,500,000 00	
Total dividends.....	\$3,000,000 00	\$3,000,000 00	
Surplus over preferred dividends.....	\$1,111,399 92	\$842,477 06	\$337,922 86
Special appropriations for improvements and betterments not to be capitalized.....	773,806 38	135,000 00	638,806 38
Balance carried to credit of Profit and Loss.....	\$408,593 54	\$707,477 06	Dec. 300,883 52

Special appropriations for improvements not to be capitalized consist of cost of reduction of grades and curvature, elimination of grade crossings, new shop and station buildings, strengthening bridges not requiring renewal, but needed for use of heavy motive power; new locomotives in anticipation of future renewals, and miscellaneous small improvements not producing revenue.

Other Deductions from Income include \$215,037 dividends accrued during the year on Southern Railway Mobile & Ohio Stock Trust Certificates, as against \$160,309 for the previous year, an increase of \$54,728. Dividends on Mobile & Ohio Railroad Company stock amounting to \$112,662 were received by the Company during the fiscal year.

For details of Income Account see Tables 2 and 3 of this report.

For report of Earnings and Expenses of substantially the same lines see Table 9, page 29 of pamphlet report.

## MILEAGE OPERATED.

The average number of miles operated for the fiscal year 1904 was 7164.39, as compared with an average of 7129.39 miles in 1903.

The mileage operated at the close of the year was 7196.82 miles, as against 7136.98 at the close of the previous year, an increase of 59.84 miles, consisting principally of: Tennessee Northern Railway, 11.30 miles; Knoxville & Bristol Railway, 39.60 miles; Whitney Branch, 6.20 miles, and the lines from near Cedar Bluff, Ala., to mines of the Alabama Steel & Wire Company, 5.06 miles, and from Oliver Springs, Tenn., to mines, 2.44 miles.

The following lines were abandoned and the tracks taken up during the year: Castleman Junction, Ala., to Castleman, Ala., 3.03 miles, and Granite, Va., to Westham Granite Quarry, Va., 2.69 miles.

For details of mileage see Table 23 of pamphlet report.

## INCREASE IN INTEREST AND RENTALS:

The net increase in Interest and Rentals for the year, amounting to \$506,287.98, was due principally to interest on \$15,000,000 Southern Railway Company Five-Year 5 Per Cent. Collateral Trust Gold Bonds, issued April 1, 1904, \$187,500; interest on \$3,333,000 Southern Railway Company First Consolidated Mortgage 5 Per Cent. Bonds sold during the year, and \$74,000 issued upon retirement of an equal amount of Charlotte, Columbia & Augusta Railroad First Mortgage 5 Per Cent. Bonds, Extended, \$139,483.82; interest on Certificates of Indebtedness, \$138,155.55, and interest on Equipment Trust Obligations, \$101,360.51. The decrease in interest on Southern Railway Company Collateral Trust Two-Five-Year 4 Per Cent. Gold Bonds, retired April 1, 1904, amounted to \$40,000, and sundry decreases to \$29,072.75.

## FINANCIAL CONDITION.

The Financial Condition of the Company at the close of the year is shown in the Comparative Balance Sheet (Table 1 of this report).

## PROFIT AND LOSS ACCOUNT:

The balance standing at credit of Profit and Loss on June 30, 1903, was.....\$5,962,561 57  
The balance standing at credit of that account on June 30, 1904, was.....6,162,898 37  
For details of Profit and Loss Account see Table 4 of this report.

## CAPITAL STOCK:

There has been no change during the year in the amount of Capital Stock Outstanding.

## SOUTHERN RAILWAY MOBILE &amp; OHIO STOCK TRUST CERTIFICATES:

There were outstanding on June 30, 1903.....\$4,932,600 00  
There were issued during the year ended June 30, 1904.....700,000 00  
Total outstanding on June 30, 1904.....\$5,632,600 00

The additional \$700,000 Stock Trust Certificates were issued upon the deposit of a like amount of the Capital Stock of the Mobile & Ohio Railroad Company with the Guaranty Trust Company of New York, Trustee, which Capital Stock had been purchased from the Mobile & Ohio Railroad Company for cash at par.

## FUNDED DEBT:

The Funded Debt outstanding on June 30, 1903 (including Southern Railway First Consolidated Mortgage and Divisional Mortgage Bonds owned by the Company), was.....\$138,870,321 00  
On June 30, 1904, as shown by the Balance Sheet (Table 1 of this report), the Funded Debt (including the following bonds owned by the Company):  
\$1,476,000 Southern Railway First Consolidated 5 Per Cent. Bonds,  
2,001,000 Southern Railway First Consolidated 4 Per Cent. Bonds, Series "B,"  
100,000 Memphis Division First Mortgage 4 1/2 Per Cent. Bonds,  
1,500,000 Memphis Division Second Mortgage 5 Per Cent. Bonds,  
500,000 St. Louis Division First Mortgage 4 Per Cent. Bonds,  
500,000 Knoxville & Ohio First Consolidated 4 Per Cent. Bonds,  
\$6,077,000) was.....152,434,100 00

Net increase during the year.....\$13,563,779 00

This increase includes bonds issued for the retirement of \$10,000,000 of Certificates of Indebtedness issued for purposes stated in Annual Report of 1903 and not classified as Funded Debt.

## Additions During Year:

Southern Railway Company First Consolidated 5 Per Cent. Bonds.....\$2,245,000 00  
Issued as follows:  
Upon retirement of an equal amount of Richmond & Danville Equipment Sinking Fund 5 Per Cent. Bonds.....\$122,000 00  
Upon retirement of an equal amount of Charlottesville & Rapidan Railroad First Mortgage 6 Per Cent. Bonds.....20,000 00  
Upon retirement of an equal amount of Charlotte, Columbia & Augusta Railroad First Mortgage 5 Per Cent. Bonds, Extended.....74,000 00

Upon retirement of an equal amount of Franklin & Pittsylvania Railroad First Mortgage 6 Per Cent. Bonds.....29,000 00  
For account of betterments and improvements and for the acquisition of new property, as provided for in the mortgage, 2,000,000 00  
Southern Railway Company Five-Year 5 Per Cent. Collateral Trust Gold Bonds issued April 1, 1904, to retire \$4,000,000 Collateral Trust Two-Five-Year Bonds, \$10,000,000 of Certificates of Indebtedness and for other purposes.....15,000,000 00  
Southern Railway Company Mobile & Ohio Collateral 4 Per Cent. Bonds issued to acquire an equal amount of Mobile & Ohio Railroad Company General Mortgage 4 Per Cent. Bonds.....15,000 00  
Louisville & Nashville-Southern Monon Collateral Joint 4 Per Cent. Bonds (Southern Railway Company's proportion).....19,179 00  
Knoxville & Ohio Railroad Company First Consolidated Mortgage 4 Per Cent. Bonds.....500,000 00  
Total Additions.....\$17,779,179 00

## Reductions During Year:

Southern Railway Company Collateral Trust Two-Five-Year 4 Per Cent. Bonds retired April 1, 1904.....\$4,000,000 00  
Richmond & Danville Equipment Sinking Fund 5 Per Cent. Bonds.....122,000 00  
Charlotte, Columbia & Augusta Railroad First Mortgage 5 Per Cent. Bonds, Extended, retired.....74,000 00  
Charlottesville & Rapidan Railroad First Mortgage 6 Per Cent. Bonds retired.....19,400 00  
Total Reductions.....4,215,400 00  
Net Increase in Funded Debt.....\$13,563,779 00

## COLLATERAL TRUST FIVE-YEAR 5 PER CENT. GOLD BONDS:

Out of a total authorized issue of \$16,000,000 of Collateral Trust 5 Per Cent. Gold Bonds, dated April 1, 1904, maturing in five years, but redeemable after two years, there were issued during the year \$15,000,000. Out of the proceeds of this issue \$4,000,000 Collateral Trust Bonds of December 1, 1901, and \$10,000,000 Certificates of Indebtedness, issued at various dates since 1897, were retired. The funding of these several issues of certificates, as suggested in previous reports, has thus been advantageously accomplished for a period of five years.

## EQUIPMENT OBLIGATIONS:

There were outstanding on June 30, 1903, Equipment Obligations amounting to.....\$7,021,809 81  
On June 30, 1904, as shown by the Balance Sheet (Table 1 of this report), there were outstanding.....7,790,297 74

Net increase during the year.....\$768,487 93

## Additions During Year:

Southern Railway Company Equipment Trust, Series "D,"  
Issued for new equipment, payable in fourteen (14) semi-annual instalments, last instalment due May 1, 1910.....\$2,478,000 00  
Miscellaneous Equipment Obligations:  
For new equipment purchased during the year, payable in monthly instalments, final payment due March 25, 1906, or earlier at the option of the Company.....309,957 12  
Total Additions.....\$2,687,957 12

## Reductions During Year:

Payment of obligations as matured, viz.:  
Car Trust, Series "A".....\$425,000 00  
Equipment Trust, Series "B".....340,000 00  
Equipment Trust, Series "C".....458,000 00  
Equipment Trust, Series "D".....351,000 00  
Miscellaneous Equipment Obligations.....212,469 19  
Total Reductions.....\$1,919,469 19  
Net Increase.....\$768,487 93

The outstanding Equipment Obligations created by Southern Railway Company, amounting to \$7,790,297.74, represent unmatured balances on contracts covering the following equipment, viz.:

10,835 Freight Cars.  
196 Convertible Ballast Cars.  
4 Work-Train Cars.  
34 Passenger-Train Cars.  
354 Locomotives.  
The contract price of which equipment was.....\$14,971,129 50  
Of which there has been paid to June 30, 1904.....7,180,831 76

Balance unmatured, as stated.....\$7,790,297 74  
Equipment Trust, Series "D," covers equipment as follows:  
34 Passenger Locomotives.  
93 Freight Locomotives.  
20 Switching Locomotives.  
700 Freight Cars.

The total cost of this equipment was \$3,235,175, of which \$757,175 was paid in cash, and Equipment Trust Obligations bearing 4 per cent. interest were issued for the balance, \$2,478,000.

## PAYMENTS ON ACCOUNT OF EQUIPMENT SINKING FUND BONDS:

Payments during the year on account of Richmond & Danville 5 Per Cent. Equipment Sinking Fund Bonds amounted to.....\$125,455 00

## CHARGES TO CAPITAL ACCOUNTS:

## To Cost of Road for:

New Construction and Real Estate:  
Real Estate at various points.....\$152,414 68  
Okolona-Big Creek Line in Mississippi.....237,151 66  
Cedar Bluff Spur Extension from near Cedar Bluff, Ala., to Ore Mines (Balance).....29,098 87  
Spring Garden Spur Extension from Spring Garden, Ala., to Ore Mines (Balance).....1,512 45  
Woodlawn-Bessemer Branch from Woodlawn, Ala., to Bessemer, Ala. (Balance).....12,504 74  
Badham Spur Extension to Mines of the Bessemer Land & Improvement Co., Shelby County, Alabama.....79,596 55  
Bennett Fork Branch Extensions to Mines, Tenn.....39,880 59  
Branches in and near Knoxville, Tenn.....84,690 51  
Middle Fork Branch Big Mountain Spur, near Oliver Springs, Tenn.....46,913 82  
Danville (Ky.) Extension from Harrodsburg, Ky., to connection with C. & N. O. & T. P. Ry.....2,158 91  
North Birmingham (Ala.) Yards and Improvements.....62,316 36  
Second Track and Revision of Line Alexandria, Va., to Orange, Va.....1,911,018 31  
Second Track Asheville, N. C., to Biltmore, N. C.....29,309 74  
Second Track Spartanburg, S. C., to Spartanburg Junction, S. C. (Balance).....18,559 79  
Revision of Line Asheville Division (portion not charged to income).....70,782 79  
Revision of Line St. Louis Division (Balance).....49,709 35  
Storage and Repair Yard at Youngstown, Ky. (Balance).....18,990 70  
Warehouse Pier No. 7, Mobile, Ala.....24,835 75  
Warehouse and Slip at Norfolk, Va.....27,107 91  
Peters Street Viaduct, Atlanta, Ga. (portion not charged to income).....13,815 41  
New Freight Depot, Atlanta, Ga.....10,180 08  
New Freight Depot, Augusta, Ga.....13,417 71  
Shops at Sheffield, Ala. (Balance).....3,109 98  
Additions to Shop Buildings, Machinery and Tools, Atlanta, Ga.....112,529 38  
Additions to Shop Buildings, Machinery and Tools, Spencer, N. C.....21,186 08  
New and Additional Machinery and Tools for other Shops.....15,212 40  
Coal Hoist at Alexandria, Va. (Balance).....21,896 18  
Additions to Yard, Monroe, Va. (Balance).....7,554 85  
Additions to Yard, Spartanburg, S. C. (Balance).....32,949 02  
Additional Yard Facilities and Second Track, Pomona, N. C.....27,195 47  
Net cost of Passing Tracks and Tracks to industrial plants not charged to income, Miscellaneous.....304,640 63  
Total Construction and Real Estate.....\$3,483,586 99

On account of acquisition of Knoxville & Ohio Railroad, Tennessee Northern Railway and Knoxville & Bristol Railway properties.....1,119,637 02

Credits.....\$4,603,224 01

Account of purchase price of Memphis & Charleston Railroad.....\$46,701 20  
Castleman (Ala.) Branch—taken up.....26,288 41  
Real Estate in Louisville, Ky., sold.....34,813 40  
Real Estate in Mississippi sold.....1,544 29  
Miscellaneous.....5,410 01  
Total additions during the year (see Balance Sheet, Table 1, this report).....\$4,488,466 79

<b>To Cost of Equipment for:</b>	
New and Additional Equipment.....	\$1,517,660 38
Representing cost of:	
49 Locomotives.....	
37 Passenger Cars.....	
2 Dining Cars.....	
255 Freight Cars.....	
1 Steam Shovel.....	
1 Derrick.....	
2 Ditching Machines.....	
1 Scale-Test Car.....	
<b>Credits:</b>	
Sale of Marine Equipment.....	\$46,077 50
Miscellaneous.....	1,085 00
	47,172 50

Total additions during the year (see Balance Sheet, Table I, this report).....\$1,470,487 88

#### BONDS RESERVED FOR FUTURE IMPROVEMENTS:

On June 30, 1903, there were unissued the following bonds reserved under the terms of the several mortgages for future improvements, viz.:	
Southern Railway Company First Consolidated Mortgage Bonds.....	\$7,900,000 00
Memphis Division First Mortgage Bonds.....	2,717,000 00
Memphis Division Second Mortgage Bonds.....	1,000,000 00
St. Louis Division First Mortgage Bonds.....	3,250,000 00
	\$14,867,000 00

#### Authorized during the year:

Southern Railway Company Five-Year 5 Per Cent. Collateral Trust Gold Bonds..	1,000,000 00
Knoxville & Ohio Railroad Company First Consolidated Mortgage Bonds.....	500,000 00
	\$15,367,000 00

#### Issued during the year for improvements made and to be made:

Southern Railway Company First Consolidated Mortgage Bonds.....	2,000,000 00
---	--------------

Balance reserved and unissued in hands of Trustees June 30, 1904.....\$14,367,000 00

#### ADDITIONAL PROPERTIES, INVESTMENTS, LEASES, ETC.

##### KNOXVILLE & OHIO RAILROAD—TENNESSEE NORTHERN RAILWAY:

By deed dated October 8, 1903, the Knoxville & Ohio Railroad Company acquired the property of the Tennessee Northern Railway Company, consisting of a railroad extending from a connection with the Knoxville & Ohio Railroad at La Follette Junction, Tenn., to the town of La Follette, Tenn., a distance of 11.30 miles, with a franchise and certain right of way for an extension to the Kentucky State line.

Since its organization Southern Railway Company has controlled the Knoxville & Ohio Railroad Company by virtue of ownership of its capital stock, and by deed dated December 31, 1903, it took over the direct ownership and operation of the Knoxville & Ohio property and franchise, including the recently-acquired Tennessee Northern Railway. The lien of Southern Railway Company First Consolidated Mortgage heretofore resting upon the capital stock of the Knoxville & Ohio Railroad Company was thus extended to the property itself.

##### KNOXVILLE & BRISTOL RAILWAY:

By deed dated December 31, 1903, the Knoxville & Bristol Railway Company conveyed to Southern Railway Company its property, consisting of a railroad from a connection with the main line at Morristown, Tenn., to a connection with the Middleborough Branch of Southern Railway at Carleton, Tenn., a distance of about 40 miles.

##### NEW ORLEANS TERMINAL COMPANY:

The consolidation of the New Orleans Belt & Terminal Company with the New Orleans Terminal Company, referred to in the Annual Report of 1903, has been effected as proposed. In order to furnish adequate facilities at the port and in the city of New Orleans, La., for the traffic of the Southern Railway and Rock Island Railway Systems, the improvement of the extensive and valuable terminal properties owned by the Terminal Company has been begun. The traffic of the Southern Railway System passes, by agreement, over the line of the New Orleans & Northeastern Railroad to and from these terminals.

The Capital Stock of the New Orleans Terminal Company is \$2,000,000, owned entirely and in equal proportions by Southern Railway Company and St. Louis & San Francisco Railroad Company.

On June 30, 1904, \$3,000,000 First Mortgage 4 Per Cent. Gold Bonds of the Company had been issued in part payment for the properties owned and for improvements thereon.

Under the agreement between Southern Railway Company and St. Louis & San Francisco Railroad Company for the joint use of the properties, these bonds are guaranteed, principal and interest, by the two Companies.

##### CHARLESTON TERMINAL COMPANY:

On July 14, 1903, the property of the East Shore Terminal Company, consisting of certain terminal tracks, wharves and warehouses on the water-front at Charleston, S. C., was sold at foreclosure sale, and was purchased and is now vested in a new proprietary corporation known as Charleston Terminal Company, the capital stock of which is owned in equal amounts by Southern Railway Company and Atlantic Coast Line Railroad Company. This Terminal Company has since acquired additional water-front and terminals formerly belonging to the South Carolina Terminal Company.

##### OKOLONA-BIG CREEK LINE IN MISSISSIPPI:

Construction of the Okolona-Big Creek Line in Mississippi was completed during the year from Okolona to a point in Calhoun County, Mississippi, 29.62 miles, and operation began June 1, 1904.

##### WHITNEY SPUR:

Under agreement dated May 7, 1904, with the Whitney Company, Southern Railway Company leased the line of railroad extending from a point of connection with the Norwood Branch of Southern Railway near New London, N. C., to Halls Mill Ferry, N. C., a distance of 6.20 miles.

##### MISSISSIPPI RIVER BARGE LINE:

Southern Railway Company discontinued March 1, 1904, operation of a fleet of boats on the Mississippi River, running from Greenville, Miss., to New Orleans, La., known as Mississippi River Barge Line, and disposed of a majority of the boats to the Monongahela River Consolidated Coal & Coke Company, retaining, however, sufficient equipment to continue operation of the coal tipples and harbor trade at Greenville, Miss. The Monongahela River Consolidated Coal & Coke Company undertakes to furnish the necessary transportation for coal traffic between Greenville, Miss., and New Orleans, La.

##### PERCY BRANCH:

During the year the Percy Branch, a narrow-gauge line extending from Stoneville, Miss., to Percy, Miss., a distance of 23.20 miles, was changed to standard gauge.

#### IMPROVEMENTS TO EXISTING LINES AND ADDITIONAL TERMINAL FACILITIES.

##### REDUCTION OF GRADES AND CURVATURE AND CONSTRUCTION OF DOUBLE TRACK:

The work of reducing the grades and curvature and the construction of an additional or second track on the Washington Division between Alexandria, Va., and Manassas, Va., a distance of 25.7 miles, reference to which was made in the report for last year, has been completed and placed in operation at an approximate cost of \$1,146,000.

Similar work between Manassas, Va., and Orange, Va., a distance of 52.1 miles, has progressed during the year on which there was expended to June 30, 1904, about \$1,760,000.

Of the work between Manassas and Orange, that portion of the line between Nokesville, Va., and Culpeper, Va., a distance of 27.9 miles, was completed and placed in operation on August 1, 1904.

It is expected that the entire work between Alexandria and Orange will be completed and the track placed in operation by November 1, 1904.

When this work shall have been completed there will be in operation a double-track line from Alexandria, Va., to Orange, Va., a distance of 77.8 miles, with a maximum grade in the direction of the preponderance of traffic of eight-tenths of 1 per cent. and a maximum curvature of 4 per cent.

The revision of grades and curvature on the Asheville Division near Platts, N. C., was completed during the year at a total cost of \$86,035.24.

There was constructed and placed in operation during the year an additional or second track on the Asheville Division between Asheville, N. C., and Biltmore, N. C., a distance of two miles, costing \$36,040.76. The addition of this track has greatly facilitated the movement of trains between Asheville and Biltmore, at which latter point the lines from Salisbury, N. C., and Spartanburg, S. C., to Asheville join.

#### YARDS AND TERMINALS:

During the year the following additions to Yard and Terminal Facilities were completed and placed in operation:

Location.	Miles of track.	Approximate cost.
Spartanburg, S. C.....	5.01	\$54,643 00
Monroe, Va.....	5.53	74,765 00
Princeton, Ind.....	4.13	56,050 00

Additional yards are now under construction at North Birmingham, Ala., and Pomona, N. C., on which expenditures during the year amounted to \$89,511.83.

#### DETAILS OF OPERATION.

##### EARNINGS AND EXPENSES:

The Earnings and Expenses for the year ended June 30, 1904, as compared with those of substantially the same properties for the preceding year, were as follows:

	GROSS EARNINGS.		Increase.	Per ct.
	1904.	1903.		
From Passenger.....	\$11,314,045 12	\$10,814,227 49	\$499,817 63	4.62
From Freight.....	30,032,415 92	28,100,307 75	1,932,108 17	6.88
From Mail.....	1,635,672 33	1,639,263 88	6,409 05	0.38
From Express.....	1,246,108 75	990,903 50	255,205 25	25.75
From Miscellaneous.....	821,534 62	790,236 90	31,297 72	3.96
Total Gross Earnings.....	\$45,109,777 34	\$42,354,939 52	\$2,754,837 82	6.43

##### OPERATING EXPENSES AND TAXES.

			Increase.	Per ct.
	1904.	1903.		
For Maintenance of Way and Structures.....	\$5,706,356 47	\$5,745,401 30	\$38,044 83	0.68
For Maintenance of Equipment.....	7,562,988 18	6,917,502 43	645,485 75	4.99
For Conducting Transportation.....	17,338,940 99	15,771,438 51	1,567,502 48	9.94
For General Expenses.....	1,407,296 35	1,393,413 72	13,882 63	1.00
For Taxes.....	1,299,885 13	1,157,531 27	212,053 86	17.85
Total Operating Expenses and Taxes.....	\$33,115,467 12	\$31,015,587 23	\$2,099,879 89	6.77
Net Earnings from Operation.....	\$11,994,310 22	\$11,339,352 29	\$654,957 93	5.50

"D" denotes decrease.

#### INDUSTRIAL DEVELOPMENT.

The encouraging growth of that portion of the Southern States traversed by the lines of this Company has continued during the past year.

The records of the Immigration and Industrial Department indicates the following general character and growth of the industrial development on and adjacent to the Company's lines during the year:

The number of new industrial plants of various classes completed during the year was 544, and the number under construction at close of the year was 94. Previously-existing plants to the number of 206 were materially enlarged during the year.

There were 19 new textile mills completed and put in operation during the year. These new mills, with the additions made to existing mills, increased the equipment of cotton mills located on the lines of this Company by 17,114 looms and 822,298 spindles.

There was during the year a noticeably healthy growth in smaller manufacturing developments, such as Furniture Factories, Knitting Mills, and Brick, Clay, Lumber and Wood-working Industries, etc.

The accounts of the Company have been examined by Certified Public Accountants, Messrs. Patterson, Teele & Dennis, and their certificate is attached hereto.

The acknowledgments of the Board are due to all officers and employees for the faithful discharge of their duties during the year.

Respectfully submitted, by order of the Board,

SAMUEL SPENCER,

President.

#### Accountants' Certificate.

Arthur W. Teele, C. P. A.	John A. Tompkins, C. P. A.
John Whitmore.	Baltimore.
Stuart H. Patterson, C. P. A.	J. S. M. Goodloe, C. P. A.
Richard T. Lingley, C. P. A.	Columbus.
PATTERSON, TEELE & DENNIS,	
Certified Public Accountants.	
30 Broad Street, New York.	
131 State St., Boston.	301 N. Charles St., Baltimore.
Cable Address "Dignus."	16 E. Broad St., Columbus, Ohio.

New York, August 22, 1904.

To the Stockholders and Bondholders of the Southern Railway Company:

We have made an examination of the books and accounts of the Southern Railway Company for the fiscal year ending June 30, 1904, and have verified the Balance Sheet and Income and Profit and Loss Accounts published herewith.

The amount charged to Capital Accounts for expenditures during the year is, in our opinion, proper.

The securities owned have either been produced or we have obtained certificates from the various Trustees or Depositories holding the securities.

The valuation of the equipment in the Balance Sheet is fully borne out by the rolling stock on hand and the provisions made for replacement.

The method of arriving at the valuation placed upon the material and supplies on hand has been carefully examined, and the results reached in former inventories justify the present valuation.

The amounts due to the Company from the various sources cited in the Balance Sheet are believed to be collectible, due provision having been made in the reserves for such as are of doubtful realization.

Cash has either been counted or certificates obtained from the Depositories.

All known liabilities have been stated, and what has proved in the past to be a sufficient reserve has been provided for such as have not yet been determined.

The charges against the year's Income for the Maintenance of Way and Structures and Equipment have been, in our opinion, sufficient for the upkeep of the capital.

Respectfully submitted,

PATTERSON, TEELE & DENNIS,

Certified Public Accountants.



TABLE 1.

COMPARATIVE BALANCE SHEET, JUNE 30, 1904, AND JUNE 30, 1903

June 30, 1903.	ASSETS.	June 30, 1904.
\$265,694,927 65	Cost of Road: Cost of Southern Railway Properties to June 30, 1903..... Additions during the year (see page 8 of pamphlet report)..... Total Cost of Road June 30, 1904.....	\$265,694,927 65 4,488,466 79 \$270,183,394 44
\$365,694,927 65	Cost of Equipment: Cost of Southern Railway Equipment to June 30, 1903..... Cost of Equipment charged to Capital during the year..... Trust Equipment received with Purchased Properties..... Total Cost of Equipment June 30, 1904.....	\$15,612,346 15 1,470,487 88 683,955 00 17,766,789 03
\$15,612,346 15	Leasehold Estates: Road..... Equipment..... Total Leasehold Estates. (Per contra)..... Southern Railway Trust Equipment. (Per contra)..... Total Cost of Road, Equipment and Leasehold Estates.....	\$39,627,622 31 1,521,877 69 31,149,500 00 7,790,297 79 \$326,889,981 21
683,955 00	Cost of Securities Pledged or Held for Control: Pledged under First Consolidated Mortgage (see Table 7)..... Pledged under Divisional and Collateral Trust Mortgages and North Carolina Railroad Lease and other Indentures (Table 8).. Pledged to secure Southern Railway Certificates of Indebtedness and Southern Rwy. Collateral Trust 4 per cent. 2-5 Year Bonds.. Securities in Treasury unpledged, held for control or as muniments of title.....	\$13,265,729 51 38,364,099 36 885,511 92 52,515,340 79
16,296,301 15	Cost of Road, Equipment and Securities Held as Stated..... Material and Supplies on Hand (see Table 20, page 41 of pamphlet report)..... Rails and Fixtures Leased..... Total Capital Assets.....	\$2,603,599 41 214,338 67 2,817,938 08 \$382,223,260 08
\$39,627,622 31	Miscellaneous Securities Owned—in Treasury unpledged..... Bills Receivable—deferred, but secured..... Advances to Subsidiary Companies..... Income Accrued, Not Due..... Insurance Paid, Not Accrued..... Insurance Fund..... Sinking Funds—Uninvested Balances in hands of Trustees..... Sundry Accounts.....	547,815 17 304,723 30 528,230 68 106,513 33 9,046 06 288,063 15 67,223 18 212,842 43
1,521,937 69	Current Assets: Miscellaneous Current Securities..... Cash in hands of Treasurer, Banks and Financial Agents..... Cash in Transit from Agencies..... Due from Agents and Conductors..... Due from United States Postoffice Department..... Due from Other Transportation Companies..... Due from Individuals and Companies..... Bills Receivable—Current.....	\$4,077,000 00 3,326,614 90 900,591 90 1,061,289 97 423,334 62 1,044,114 36 542,587 86 186,570 12 11,562,102 73
31,149,500 00		
7,021,809 81		
\$320,162,538 61		\$395,850,120 09
\$13,696,233 55	<b>LIABILITIES.</b>	
19,705,673 00	Capital Stock: Common..... Preferred..... Total.....	June 30, 1904. \$120,000,000 00 60,000,000 00 \$180,000,000 00
17,599,146 58	Southern Railway Mobile & Ohio Stock Trust Certificates.....	5,632,690 00
3,338,286 34	Funded Debt (see Table 5).....	152,434,100 00
54,339,339 47	Outstanding Securities of Leasehold Estates. (Per contra).....	31,149,500 00
\$374,501,878 08	Equipment Obligations: Southern Railway Car Trust, Series A..... Southern Railway Equipment Trust, Series B..... Southern Railway Equipment Trust, Series C..... Southern Railway Equipment Trust, Series D..... Miscellaneous Equipment Contracts..... (Per contra.)	\$1,487,000 00 1,530,000 00 2,519,000 00 2,124,000 00 130,297 74 7,790,297 74
\$2,496,144 73	Certificates of Indebtedness.....	
175,704 30	Unmatured Balance of Purchase Price of Northeastern Railroad of Georgia.....	107,000 00
2,671,849 03	Unmatured Balance on Real Estate.....	42,375 00
\$377,173,727 11	Unmatured Balance on Hartwell (Ind.) Branch.....	13,519 60
1,035,862 26	Total Capital, Funded and Lien Liabilities.....	\$377,169,192 34
434,978 49	Reserves: For Maintenance of Way..... For Maintenance of Equipment..... For Insurance Fund..... Miscellaneous.....	\$94,202 13 437,342 06 288,063 15 782,530 19
349,258 25	Sundry Accounts.....	1,602,137 52
106,613 23	Interest and Rentals Accrued, Not Due.....	109,510 49
5,234 76	Taxes Accrued, Not Due.....	965,909 34
275,000 00	Reserve for Dividends Nos. 12 and 14, 2½ per cent. on Preferred Stock, payable in October, 1903 and 1904, respectively.....	570,213 65 1,500,000 00
66,173 36	Current Liabilities: Interest and Rentals Due and Unpaid, including amount due July 1..... Audited Vouchers..... Material and Supplies in transit, not vouchered..... Unpaid Wages, including June Pay-Rolls..... Freight Claim Authorities Outstanding..... Due Other Transportation Companies..... Due Individuals and Companies.....	\$2,389,631 25 2,392,367 90 285,378 88 1,589,472 53 102,068 57 794,372 41 216,666 84
133,099 57	Profit and Loss (see Table 4).....	7,769,958 38 6,162,898 37
\$388,834,817 06		\$395,850,120 09

TABLE 2. INCOME ACCOUNT FOR YEAR ENDED JUNE 30, 1904, COMPARED WITH YEAR ENDED JUNE 30, 1903.

1903.		1904.
\$10,804,541 51	Gross Earnings:	\$11,314,045 12
28,081,034 02	Passenger.....	30,032,415 92
1,688,117 78	Freight.....	1,695,672 93
990,575 61	Mail.....	1,246,108 75
789,790 84	Express.....	821,534 62
\$42,354,059 76	Miscellaneous.....	\$45,109,777 34
\$5,733,997 02	Operating Expenses and Taxes:	\$5,706,356 47
6,916,823 22	Maintenance of Way and Structures.....	7,262,988 18
15,759,972 70	Maintenance of Equipment.....	17,338,940 99
1,391,088 17	Conducting Transportation.....	1,407,296 35
1,187,258 77	General Expenses.....	1,399,895 13
30,989,139 88	Taxes.....	33,115,467 12
\$11,364,919 88	Net Earnings from Operation.....	\$11,394,310 22
	Income from Investments:	
\$40,000 00	Interest on Charleston Terminal Company Bonds.....	\$10,000 00
9,096 00	Interest on St. Johns River Terminal Company Bonds.....	40,000 00
197,857 75	Interest on Chesapeake Steamship Company Certificates of Indebtedness.....	18,192 00
98,652 00	Dividends on Chicago, Indianapolis & Louisville Railway Stock.....	199,929 25
6,750 00	Dividend on Mobile & Ohio Railroad Company Stock.....	112,652 00
3,200 00	Interest on Lancaster & Chester Railway Company Bonds.....	6,750 00
158,039 37	Interest on Roswell Railroad Company Bonds.....	6,750 00
101,245 00	Dividends on Alabama Great Southern Railway Company, Ltd., Stock.....	143,660 49
133,144 59	Interest and Dividends on Georgia Southern & Florida Railway Company Bonds and Stock.....	101,645 00
5,100 00	Interest and Dividends on Sundry Bonds and Stock.....	203,192 36
58,020 00	Interest on United States Government Bonds.....	4,935 00
2,000 00	Interest on Northern Alabama Railway Company Bonds.....	68,150 00
5,000 00	Interest and Dividends on Hartwell Railway Company Bonds and Stock.....	2,000 00
14,290 00	Interest and Dividends on Blue Ridge Railway Company Bonds and Stock.....	11,000 00
12,600 00	Interest on Kentucky & Indiana Bridge & Railroad Company Bonds.....	14,413 34
319,026 66	Dividends on Old Dominion Steamship Company Stock.....	12,600 00
17,960 77	Interest on Mobile & Ohio Railroad Company General Mortgage Bonds.....	320,140 00
29,289 18	Income from Shepherd's Ferry, Alexandria, Va.....	21,470 10
\$1,211,261 32	Net Income from Compresses and Other Property.....	97,701 47
	Total.....	\$1,395,181 01
\$160,209 50	Miscellaneous Deductions from Income:	
121,609 41	Dividends Accrued on Southern Railway Mobile & Ohio Stock Trust Certificates.....	\$215,037 34
5,744 63	Miscellaneous Interest and Commissions.....	34,155 60
\$287,663 54	Other Miscellaneous Deductions.....	7,569 79
	Total.....	256,762 73
923,597 78	Net Income from Investments and Other Sources.....	1,138,418 28
\$12,288,517 66	Total Available Income.....	\$13,132,728 50
8,446,040 60	Fixed Charges, including Rentals (see Table 3).....	8,952,328 58
\$3,842,477 06	Surplus Income over Charges.....	\$4,180,399 92
\$1,500,000 00	From which Deduct:	\$1,500,000 00
1,500,000 00	Dividends Nos. 11 (2½ per cent.) and 13 (2½ per cent.) on Preferred Stock.....	1,500,000 00
3,000,000 00	Dividend No. 12 (2½ per cent.) and reserve for Dividend No. 14 (2½ per cent.) on Preferred Stock, payable in October, 1903 and 1904.	3,000,000 00
\$842,477 06	Total Dividends.....	\$1,180,399 92
135,000 00	Surplus Over Dividends.....	773,806 38
\$707,477 06	Special Appropriations for Improvements and Betterments not to be Capitalized.....	\$406,593 54
	Balance Carried to Credit of Profit and Loss for the Year.....	

TABLE 3. STATEMENT OF INTEREST AND RENTALS FOR YEAR ENDED JUNE 30, 1904, COMPARED WITH YEAR ENDED JUNE 30, 1903.

Class.	Period.	Amount outstanding June 30, 1904.	Rate.	Amount charged—1904.	Amount charged—1903.
Southern Railway Company:	12 months.	\$35,275,000 00		\$1,763,750 00	\$1,750,458 33
First Consolidated Mortgage.....	6 months.	47,000 00	5%	1,175 00	
	9 m. 17 d.	1,333,000 00		76,406 04	
	5 m. 25 d.	2,000,000 00		48,611 11	
East Tennessee Reorganization Mortgage.....	12 months.	\$39,255,000 00		\$1,889,942 15	\$1,750,458 33
Memphis Division 1st Mortgage.....	12 months.	4,500,000 00	5%	225,000 00	225,000 00
Alken Branch 1st Mortgage.....	12 months.	5,183,000 00	4½%	232,235 00	230,947 50
St. Louis Division 1st Mortgage.....	12 months.	150,000 00	4%	6,000 00	6,000 00
Mobile & Ohio Collateral Mortgage.....	12 months.	11,250,000 00	4%	450,000 00	450,000 00
Collateral Trust, 25-Year Bonds.....	12 months.	8,011,000 00	4%	320,440 00	319,026 66
Collateral Trust 5-Year Gold Bonds.....	9 months.		4%	120,000 00	160,000 00
L. & N.—Southern Monon Collateral Joint Bonds.....	3 months.	15,000,000 00	5%	187,500 00	
Certificates of Indebtedness.....	12 months.	5,913,500 00	4%	236,546 42	232,511 11
Car Trust, Series "A".....	12 months.	1,487,000 00	4½%	69,406 67	86,406 66
Equipment Trust, Series "B".....	12 months.	1,530,000 00	4%	68,000 00	79,944 45
"C".....	12 months.	2,519,000 00	4%	111,387 89	32,533 97
"D".....	12 months.	2,124,000 00	4%	80,851 03	
Atlantic, Tennessee & Ohio 1st Mortgage.....	12 months.	150,000 00	6%	9,000 00	9,000 00
Alabama Central 1st Mortgage.....	12 months.	1,000,000 00	6%	60,000 00	60,000 00
Atlantic & Yadkin 1st Mortgage.....	12 months.	1,500,000 00	4%	60,000 00	60,000 00
Charlotte, Columbia & Augusta 1st Mortgage Ext.....	12 months.	1,333,500 00	5%	67,850 00	71,900 00
2d Mortgage.....	12 months.	500,000 00	7%	35,000 00	35,000 00
Columbia & Greenville 1st Mortgage.....	12 months.	2,000,000 00	6%	120,000 00	120,000 00
East Tennessee, Virginia & Georgia Consolidated Mortgage.....	12 months.	3,108,000 00	5%	155,300 00	155,300 00
Georgia Pacific 1st Mortgage.....	12 months.	12,770,000 00	5%	638,500 00	638,500 00
Eq. S. F. Mortgage.....	12 months.	5,690,000 00	6%	339,600 00	339,600 00
Knoxville & Ohio 1st Mortgage.....	12 months.	2,000,000 00	5%	488 33	
Richmond & Danville 1st Consolidated Mortgage.....	12 months.	2,000,000 00	6%	120,000 00	120,000 00
Debtors Mortgage.....	12 months.	5,997,000 00	6%	359,820 00	359,820 00
Eq. S. F. Mortgage.....	12 months.	3,368,000 00	5%	168,400 00	168,400 00
Richmond, York River & Chesapeake 1st Mortgage.....	12 months.	253,000 00	5%	14,785 19	20,556 39
2d Mortgage.....	12 months.	400,000 00	5%	20,000 00	20,000 00
Virginia Midland Serial Mortgage, Series A.....	12 months.	500,000 00	4½%	22,500 00	22,500 00
B.....	12 months.	600,000 00	6%	36,000 00	36,000 00
C.....	12 months.	1,900,000 00	6%	114,000 00	114,000 00
D.....	12 months.	1,100,000 00	6%	66,000 00	66,000 00
E.....	12 months.	950,000 00	5%	47,500 00	47,500 00
F.....	12 months.	1,774,000 00	5%	88,700 00	88,708 33
General Mortgage.....	12 months.	1,310,000 00	5%	65,500 00	65,500 00
Western North Carolina 1st Consolidated Mortgage.....	12 months.	4,859,000 00	5%	242,950 00	242,950 00
Washington, Ohio & Western 1st Mortgage.....	12 months.	2,531,000 00	6%	151,860 00	151,860 00
Atlanta & Charlotte Air Line 1st Mortgage Pref.....	12 months.	1,025,000 00	4%	41,000 00	41,000 00
Stock.....	12 months.	500,000 00	4%	20,000 00	20,000 00
Organization Exp.....	12 months.	4,250,000 00	7%	297,500 00	297,500 00
Atlantic & Danville Railway Rental.....	12 months.	750,000 00	4%	30,000 00	30,000 00
Atlantic Coast Line Railroad Trackage.....	12 months.	1,700,000 00	7%	119,000 00	119,000 00
Athens Belt Line Rental.....	12 months.			4,000 00	4,000 00
Blackville, Alston & Newberry 1st Mortgage.....	12 months.			157,000 00	157,000 00
Charlottesville & Rapidan Railroad Rental.....	12 months.	9,500 00	6%	72,874 82	72,869 71
Charleston & Savannah Railway Trackage.....	12 months.			1,050 00	1,050 00
Georgia Midland 1st Mortgage.....	12 months.			570 00	570 00
Mobile & Birmingham Railroad Rental.....	12 months.			16,900 00	35,300 00
North Carolina Railroad Rental.....	12 months.	1,650,000 00	3%	49,500 00	49,500 00
Richmond & Mecklenburg Railroad Rental.....	12 months.			114,000 00	114,000 00
South Carolina & Georgia 1st Mortgage.....	12 months.			286,000 00	286,000 00
Spartanburg, Union & Columbia 1st Mortgage.....	12 months.	5,250,000 00	5%	262,500 00	262,500 00
Sumter & Wateree River 1st Mortgage.....	12 months.	1,000,000 00	4%	40,000 00	40,000 00
W.H. & W.L. R. R. and Norfolk & Carolina R. R.—Trackage and Real Estate Rental.....	12 months.	100,000 00	5%	5,000 00	5,000 00
				70,534 06	69,739 80
Total (see Income Account, Table 2).....				\$8,952,328 58	\$8,446,040 60



Mobile & Birmingham Railroad Co.....	Preferred.....	20,500 00
North Carolina Midland Railroad Co.....		787,800 00
Ore Belt Railroad Co.....		80,000 00
Southern Railway Co. in Kentucky.....		998,200 00
Yadkin Railroad Co.....		462,750 00

Total Stocks.....	\$10,656,300 00
Other Securities:	
Chesapeake Steamship Co.....	Capital Stock..... \$400,000 00
Chesapeake Steamship Co.....	Certificates of Indebtedness..... 250,000 00
Total Other Securities.....	\$650,000 00
Total Bonds, Stocks and Other Securities.....	\$21,930,575 00
Book Valuation, as per Balance Sheet.....	\$13,265,729 51

TABLE 8.—STATEMENT OF SECURITIES OWNED BY SOUTHERN RAILWAY COMPANY, AND BY IT PLEDGED UNDER ITS DIVISIONAL AND COLLATERAL TRUST MORTGAGES, AND NORTH CAROLINA RAILROAD LEASE AS OF JUNE 30, 1904.

Name of Security.	June 30, 1901. Par value.
Under Southern Railway Memphis Division First and Second Mortgages:	
Memphis & Charleston Railway Co. 1st Mortgage 5% Bonds.....	\$900,000 00
Sheffield Machine Works 1st Mortgage 5% Bonds.....	75,000 00
Under Southern Railway St. Louis Division First Mortgage:	
Southern Railway Co. of Indiana 1st Mortgage 5% Bonds.....	5,000,000 00
Southern Railway Co. of Indiana Stock.....	999,300 00
Under Southern Railway Mobile & Ohio Collateral Trust Indenture:	
Mobile & Ohio Railroad Co. General Mortgage 4% Bonds.....	8,011,000 00
To Secure Southern Railway Mobile & Ohio Stock Trust Certificates:	
Mobile & Ohio Railroad Co. Stock.....	5,632,600 00
Under Louisville & Nashville Southern Monon Coll. Trust Indenture:	
Chicago, Indianapolis & Louisville Railway Co. (Monon) Preferred Stock, Southern Railway Co.'s proportion—one-half of \$3,873,400.....	1,936,700 00
Chicago, Indianapolis & Louisville Railway Co. (Monon) Common Stock, Southern Railway Co.'s proportion—one-half of \$9,796,900.....	4,898,450 00
To Secure Southern Railway 5 Year 5 Per Cent. Collateral Trust Bonds:	
Miscellaneous Securities.....	26,010,200 00
Under North Carolina Railroad Lease:	
United States 4% Bonds.....	135,000 00
<b>Total Bonds and Stocks.....</b>	<b>\$53,588,250 00</b>
<b>Book Valuation, as per Balance Sheet.....</b>	<b>\$38,364,099 00</b>

	1901.	1903.	Percentage of Inc. or dec.
Average Miles of Road Operated.....	7,164.39	7,154.84	Increase 0.13%
Passenger Traffic:			
Number of passengers carried.....	10,296,238	9,676,346	Increase 6.41%
Number of passengers carried one mile....	486,309,079	465,903,106	Increase 4.38%
Average distance hauled per passenger (miles).....	47.23	48.15	Decrease 1.91%
Total revenue from passengers.....	\$ 11,314,045.12	\$ 10,814,227.49	Increase 4.62%
Average receipts per passenger per mile.....	Cents 2.327	Cents 2.321	Increase 0.26%
Total passenger-train earnings.....	\$ 14,179,342.31	\$ 13,709,596.73	Increase 5.62%
Passenger-train earnings per mile of road.....	2,021.02	1,916.12	Increase 5.47%
Passenger-train earnings per train mile.....	.97335	.94241	Increase 3.28%
Average number of passengers in each train.....	32.69	32.03	Increase 2.06%
*Average number of passengers in each car.....	11.87	11.59	Increase 2.42%

	1901.	1902.	Percentage of Inc. or dec.	
Average Miles of Road Operated.....	7,164.39	7,154.84	Increase	0.13%
<b>Passenger Traffic:</b>				
Number of passengers carried.....	10,296,238	9,676,346	Increase	6.41%
Number of passengers carried one mile....	486,309,079	465,903,106	Increase	4.38%
Average distance hauled per passenger (miles).....	47.23	48.15	Decrease	1.91%
Total revenue from passengers.....	\$ 11,314,045.12	\$ 10,814,227.49	Increase	4.62%
Average receipts per passenger per mile.....	Cents 2.327	Cents 2.321	Increase	0.26%
Total passenger-train earnings.....	\$ 14,479,342.21	\$ 13,709,506.72	Increase	5.62%
Passenger-train earnings per mile of road.....	\$ 2,021.02	\$ 1,916.12	Increase	5.47%
Passenger-train earnings per train mile.....	97335	94241	Increase	3.28%
Average number of passengers in each train.....	32.69	32.03	Increase	2.06%
*Average number of passengers in each car.....	11.87	11.59	Increase	2.42%
<b>Freight Traffic:</b>				
<b>Revenue Freight:</b>				
Number of tons carried.....	20,733,049	19,197,484	Increase	8.00%
Number of tons carried one mile.....	3,218,263,980	2,964,717,921	Increase	8.92%
Average distance hauled per ton (miles).....	155.22	153.91	Increase	0.85%
Total freight-train earnings.....	\$ 30,082,415.92	\$ 28,100,307.75	Increase	6.88%
Average receipts per ton per mile.....	Cents 0.933	Cents 0.951	Decrease	1.89%
Freight-train earnings per mile of road.....	\$ 4,191.90	\$ 3,927.45	Increase	6.73%
Freight-train earnings per train mile.....	1.77121	1.73924	Decrease	1.91%
Average number of tons of freight in each train.....	189.80	188.11	Increase	0.88%
Average number of tons of freight in each loaded car.....	14.19	13.91	Increase	1.79%
<b>All Freight (including Company's material hauled free):</b>				
Number of tons carried.....	24,265,643	22,155,885	Increase	9.97%
Number of tons carried one mile.....	3,812,864,988	3,424,482,536	Increase	11.34%
Average number of tons of freight in each train.....	224.87	218.05	Increase	3.13%
Average number of tons of freight in each loaded car.....	16.81	16.15	Increase	4.09%
<b>Earnings and Expenses:</b>				
Passenger and freight-train earnings.....	\$ 44,511,758.13	\$ 41,809,814.47	Increase	6.46%
Passenger and freight-train earnings per mile of road.....	\$ 6,212.92	\$ 5,843.57	Increase	6.32%
Gross earnings.....	\$ 45,109,777.34	\$ 42,384,039.52	Increase	6.43%
Gross earnings per mile of road.....	\$ 6,296.29	\$ 5,923.95	Increase	6.29%
Gross earnings per revenue train mile.....	\$ 1.19086	\$ 1.48267	Increase	0.55%
Operating expenses and taxes.....	\$ 33,115,467.12	\$ 31,015,587.23	Increase	6.77%
Operating expenses and taxes per mile of road.....	\$ 4,622.23	\$ 4,331.91	Increase	6.63%
Operating expenses and taxes per revenue train mile.....	\$ 1.09446	\$ 1.08496	Increase	0.88%
Net earnings.....	\$ 11,994,310.22	\$ 11,369,252.29	Increase	5.50%
Net earnings per mile of road.....	\$ 1,674.16	\$ 1,589.04	Increase	5.26%
Net earnings per revenue train mile.....	\$ .39640	\$ .39771	Decrease	0.33%
<b>Train and Engine Mileage:</b>				
Miles run by passenger trains.....	13,301,567	12,881,730	Increase	3.26%
Miles run by freight trains.....	15,381,730	14,039,615	Increase	9.56%
Miles run by mixed trains.....	1,574,170	1,665,509	Decrease	5.48%
Total revenue train mileage.....	30,257,467	28,586,854	Increase	5.85%
Miles run by work trains.....	1,153,892	929.95	Increase	24.10%
Miles run by special trains.....	37,573	13,516	Increase	177.99%
Total train mileage.....	31,448,932	29,530,295	Increase	6.50%
Miles run by helping engines.....	806,966	1,200,024	Decrease	32.75%
Miles run by light engines.....	366,847	341,296	Increase	7.49%
Miles run by switching engines.....	6,889,653	6,515,540	Increase	5.77%

Total engine mileage.....	39,512,378	37,585,165	Increase	5.13%
Car Statistics:				
Mileage of loaded freight cars.....	226,855,068	211,989,145	Increase	7.01%
Mileage of empty freight cars.....	87,750,174	75,039,027	Increase	16.94%
Mileage of caboose cars.....	15,314,719	13,729,730	Increase	11.54%

Atlanta & Charlotte Air Line		Principal due.		Interest.	Amount outstanding.	
				Due. Rate.	June 30, 1904.	June 30, 1903.
1st Mortgage Preference Bonds.....	1907	A. & O.	4%	\$500,000		\$500,000
1st Mortgage Bonds.....	1907	J. & J.	7%	4,250,000		4,250,000
Income Mortgage Bonds, Ext.....	1907	A. & O.	4%	750,000		750,000
Stock.....		M. & S.	7%	1,700,000		1,700,000
					\$7,200,000	\$7,200,000
Atlantic & Danville Railway:						
1st Mortgage Bonds.....	1948	J. & J.	4%		3,925,000	3,925,000
Georgia Midland Railway:						
1st Mortgage Bonds.....	1916	A. & O.	3%		1,650,000	1,650,000
Mobile & Birmingham Railroad:						
Prior Lien Bonds.....	1945	J. & J.	5%	\$600,000		\$600,000
1st Mortgage Bonds.....	1915	J. & J.	4%	1,200,000		1,200,000
Preferred Stock.....		J. & D.	4%	900,000		900,000
					2,700,000	2,700,000
North Carolina Railroad:						
Stock.....		J. & J.	...		4,000,000	4,000,000
Richmond & Mecklenburg R. R.:						
1st Mortgage Bonds.....	1948	M. & N.	4%		315,000	315,000
Southern Ry.-Carolina Division:						
General Mortgage Bonds, Southern						
Railway-Carolina Division.....	1952	J. & J.	4%	\$5,000,000		\$5,000,000
1st Mortgage Bonds, South Carolina						
& Georgia Railroad.....	1919	M. & N.	5%	5,250,000		5,250,000
1st Mortgage Bonds, Spartanburg						
Union & Columbia Railroad.....	1905	J. & J.	4%	1,000,000		1,000,000
1st Mortgage Bonds, Sumter						
& Wateree River Railroad.....	1919	A. & O.	5%	100,000		100,000
1st Mortgage Bonds, Blackville, Alston						
& Newberry Railroad.....	1908	F. & A.	6%	9,500		9,500
					11,350,500	11,350,500
Total as per Balance Sheet.....					\$31,149,500	\$31,149,500

TABLE 7.—STATEMENT OF SECURITIES OWNED BY SOUTHERN RAILWAY COMPANY, AND BY IT PLEDGED UNDER ITS FIRST CONSOLIDATED MORTGAGE AS OF JUNE 30, 1904.

Name of Security.	June 30, 1904.
Railroad Bonds:	Par value
Alabama Central Railroad Co.....	Income Bonds..... \$1,355,275 00
Danville & Western Railway Co.....	1st Mortgage 5%..... 1,051,000 00
Elberton Air Line Railroad Co.....	1st Mortgage 7%..... 150,000 00
High Point, Randleman, Asheboro & Southern Railroad Co.....	1st Mortgage 6%..... 402,000 00
Knoxville & Ohio Railroad Co.....	1st Consolidated Mortgage 4%..... 500,000 00
North Carolina Midland Railroad Co.....	1st Mortgage 6%..... 801,000 00
Piedmont Railroad Co.....	1st Mortgage 6%..... 500,000 00
Piedmont Railroad Co.....	2d Mortgage 6%..... 500,000 00
Southern Railway Co. in Kentucky.....	1st Mortgage 5%..... 3,000,000 00
Southern Railway Co. in Mississippi.....	1st Mortgage 5%..... 200,000 00
Western North Carolina Railroad Co.....	1st Mortgage 6%..... 1,325,000 00
Washington, Ohio & Western Railroad Co.....	1st Mortgage 4%..... 225,000 00
Yadkin Railroad Co.....	1st Mortgage 6%..... 615,000 00
<b>Total Bonds.....</b>	<b>\$10,624,275 00</b>
Railroad Stocks:	
Alabama Great Southern Railway Co., Limited.....	Class "A"..... \$1,725,000 00
Alabama Great Southern Railway Co., Limited.....	Class "B"..... 4,540,050 00
Atlantic & Yadkin Railway Co.....	..... 998,200 00
High Point, Randleman, Asheboro & Southern Railroad Co.....	..... 212,500 00
Mobile & Birmingham Railroad Co.....	Common..... 880,400 00

Total mileage of freight-train cars.....	339,919,991	300,757,902	Increase	9.70%
Mileage of passenger cars.....	43,373,258	42,721,200	Increase	1.53%
Mileage of baggage, mail and express cars.....	23,751,281	22,266,376	Increase	6.67%

Total mileage of passenger-train cars.....	67,124,539	64,966,576	Increase	3.29%
Mileage of work-train cars.....	3,172,178	2,899,327	Increase	9.41%
Average number of loaded cars in each freight train.....	13.38	13.50	Decrease	0.89%
Average number of empty cars in each freight train.....	4.08	5.64	Increase	7.80%
Average number of cars in each freight train.....	19.46	19.14	Increase	1.67%
Percentage of loaded cars in each freight train.....	68.76	70.53	Decrease	2.51%
Average number of passenger cars in each train.....	2.91	2.94	Decrease	1.02%
Average number of baggage, mail and express cars in each train.....	1.60	1.53	Increase	4.58%
Average number of cars in each passenger train.....	4.51	4.47	Increase	0.89%
Excludes dining, cafe and special car mileage. †Includes dining, cafe and special car mileage.				
‡Includes caboose cars.				

[Continued from Page 341.]

of concrete construction, is bound to bring concrete rapidly to the front as a substitute for brick, stone and steel-frame and terra-cotta in the building construction of the future.

**Railway, Mill and Factory Supplies.**

One of the most successful companies meeting the general demand throughout the South and the entire country for railway, mill and factory supplies, rails and equipment, heavy and light hardware and machinery of all kinds is the Walter A. Zelnicker Supply Co. in St. Louis, Mo. This company was established about five years ago by Mr. Zelnicker, and in the short space of time since then he has built up a business from an office containing himself and a stenographer to a corporation occupying its present commodious quarters at 400, 402 and 404 North 4th street, with an office force of 60 people, branches and sales managers in six different cities and traveling representatives covering practically every State and Territory. The latest issue of the Zelnicker catalogue has just been published. It is practically a text-book for railroads, saw-mills, lumbermen, contractors, foundries, machine shops, factories, mills, mines and other industries, and contains useful information and tables that will prove valuable to every line of trade. The Zelnicker trade has been established on the first consideration of quality, and the thousands of buyers are well acquainted with this fact. It would be an endless task to enumerate here the products shown in the Zelnicker catalogue, as they number some 1600 articles, many of them made in the company's own works at East St. Louis, Ill., and New Madison, Ohio. The catalogue is a cloth-bound volume eight and one-half by six and one-half inches in size, of more than 800 pages. Its pages illustrate and detail facts ranging from nails to large saw-mills, power plants, railway outfits, pumping plants, contractors' equipments, etc.—in fact, about anything that the various industries above mentioned could possibly require to conduct their operations in mill, factory and field. The Walter A. Zelnicker Supply Co. is now distributing its new catalogue to buyers. The Southern branches are at Mobile, New Orleans and Houston.

**Manufacturing Cost.** By H. L. C. Hall, Vice-President International Accountants' Society, Inc. Clothbound, 180 pages. Illustrated. Publisher, The Bookkeeper Publishing Co., Detroit, Mich. Price \$3.

This work is something entirely new and novel in the line of cost-keeping literature, as it is almost entirely devoted to a practical exposition of the principles of the science (for it is a science), and the application of these principles to ordinary manufacturing requirements. In this work Mr. Hall has succeeded in reducing the principles of the science to such a form that they can be applied by any reader to the particular line in which he is interested. Such illustrations of forms already in use as appear in the book are of universal application, and are thus of universal interest.

Taking into consideration the fact that every item of expenditure is necessarily a contribution to the cost of manufacture, this work starts at the beginning with detailed plans for an efficient and smoothly-working organization. This is followed by detailed plans for purchasing, storing and recording raw material, always a great factor in the cost of a finished product. A full and complete discussion as to methods of handling labor and its records is next entered into, and detailed description of plans for recording the cost of labor, as well as plans for making the labor highly efficient, are presented. The whole work is fully illustrated with sample forms of record for all purposes, and a particularly clear exposition of that most important subject, expense distribution, is a particularly valuable feature of the book.

The subject-matter is well worthy of the careful attention of every manager, superintendent, proprietor or cost-keeper.

If you wish to keep posted on the progress of the South, read the MANUFACTURERS' RECORD. Price \$4.00 a year.

**FINANCIAL NEWS**

The Manufacturers' Record invites information about Southern financial matters, items of news about new institutions, dividends declared, securities to be issued, openings for new banks, and general discussions of financial subjects bearing upon Southern matters.

**Review of the Baltimore Market.**

Office Manufacturers' Record,  
Baltimore, Md., October 19.

Considerable activity prevailed in the Baltimore stock market in sympathy with New York toward the close of the week ended today. There were gains throughout the speculative list, and interest was particularly attracted towards Cotton Duck and Seaboards. Bank stocks were quiet and firm, and advances were made by Mercantile, International and Continental Trusts, Maryland Casualty and Fidelity & Deposit; Atlantic Coast Line scored a further rise, and investment securities generally held steady to firm.

In the dealings United Railways common sold from 75½ to 81½; the incomes from 45½ to 47; the 4s at 90½ to 91; United Light & Power preferred from 38¾ down to 37½, recovering to 38½, and the 4½s at 95; Consolidated Gas from 81 to 83; the 6s from 111¼ down to 110¾, and the 5s at 116; Seaboard common from 16 to 16½, reacting to 16, with last sale at 16½; the preferred from 33¾ to 34½, reacting to 33½, with last sale at 34; the 4s from 80¾ to 81¾; the 10-year 5s from 104 to 103¾; the 3-year 5s from 95¾ to 96½; Cotton Duck common from 5 to 6; the incomes from 18¼ to 20, reacting to 18½; the 5s from 67 to 70½, reacting to 69; United States Cotton Duck from 5¼ to 8½; G. B. S. Brewing common from 6½ to 7½; the incomes at 27; the 1sts at 53½ to 55.

Bank stocks sold as follows: Citizens', 28 to 29; First National, 140; Union, 117; Maryland National, 14½; Marine, 37; Farmers and Merchants', 57. Trust company stocks sold as follows: Union, 45; Mercantile, 143¾ to 150; International, 100 to 118, last sale at 116; Continental, 110 to 115; Colonial, 20 to 30; Fidelity & Deposit sold from 140 to 144; United States Fidelity at 101; Maryland Casualty from 50½ to 54.

Other securities traded in were as follows: Atlantic Coast Line common, 125 to 130½; do. Consolidated 4s, 98¾ to 98½; do. Connecticut 5s, 118; do. new 4s, certificates, 91 to 90; do. Connecticut stock, 294 and 295; Northern Central stock, 94½ to 95; Anacostia & Potomac 5s, 103¾ to 104; Alabama Consolidated Coal & Iron common, 15 to 18; do. preferred, 60; do. 5s, 74 to 76; Norfolk Railway & Light stock, 10¼ to 10; do. 5s, 89 to 90½; Baltimore Brick, 7 to 10; Carolina Central 4s, 96½ to 97½; City & Suburban (D. C.) 5s, 104 to 104½; Coal & Iron Railway 5s, 105¾; Virginia Century, 96¾; Georgia, Carolina & Northern 5s, 111; United States Steel common, 20; West Virginia Central 6s, 112½ to 112¼; North Carolina 4s, 103½; Maryland Telephone 5s, 91 to 92½; Macon Railway & Light 5s, 91¼ to 91½; Virginia Electric Railway & Development 5s, 94½ to 95; Baltimore City 3½, 1928, 110; Georgia, Southern & Florida common, 27½; do. 1st preferred, 98½; Western Maryland new 4s, 84¾ to 87; Augusta Street Railway 5s, 101¾; Charleston Street Railway 5s, 107; Norfolk Street Railway 5s, 107; Savannah, Florida & Western 5s, 113¾; Florida Southern 4s, 95¾; Seaboard & Roanoke 5s, 111¼; Charleston Consolidated Electric 5s, 86; Jacksonville (Fla.) 5s, 111¼; Florida Central & Peninsular consolidated 5s, 107; Baltimore City Passenger 4½s, 104½; United States Leather common,

13¼; Baltimore Traction Convertible 5s, 103½; Atlanta Consolidated Street Railway 5s, 106¾; Virginia Midland 2ds, 111½ and 112.

**SECURITIES AT BALTIMORE.**

Last Quotations for the Week Ended  
October 19, 1904.

Railroad Stocks.	Par.	Bid.	Asked.
Atlanta & Charlotte.....	100	155	...
Georgia Southern & Florida.....	100	25	35
Georgia Sou. & Fla. 1st Pref.....	100	97	100
Georgia Sou. & Fla. 2d Pref.....	100	60	65
United Railways & Elec. Co.....	50	7¼	8
Seaboard Railway Common.....	100	16	16½
Seaboard Railway Preferred.....	100	33¼	33½
Macon Railway & Light Pref.....	100	75	...
Charleston Con. Ry. G. & E.....	50	10¼	12
Norfolk Railway & Light.....	25	10	...
Atlantic Coast Line.....	100	138¾	140
Atlantic Coast Line of Conn.....	100	295	300

**Bank Stocks.**

Citizens' National Bank.....	10	28	29
Commercial & F. Nat. Bank.....	100	100	102
Drovers & Mech. Nat. Bank.....	100	335	410
Farmers & Mer. Nat. Bank.....	40	57	60
First National Bank.....	100	140	155
German Bank.....	100	105	...
German-American Bank.....	100	106	...
Mechanics' National Bank.....	100	169	171
National Bank of Baltimore.....	100	120½	...
National Exchange Bank.....	100	196	...
National Howard Bank.....	10	10¼	12
National National Bank.....	30	36	38
National Mechanics' Bank.....	10	28	29
National Union Bank of Md.....	100	116½	120
Second National Bank.....	100	182	...

**Trust, Fidelity and Casualty Stocks.**

American Bonding & Trust.....	50	35	50
Baltimore Trust & Guarantee.....	100	220	225
Central Real Estate & Trust.....	50	50	60
Colonial Trust.....	50	30	32
Continental Trust.....	100	112	125
Fidelity & Deposit.....	50	143½	145
International Trust.....	100	116	118
Maryland Casualty.....	25	53½	55
Mercantile Trust & Deposit.....	50	149½	150¾
Union Trust.....	50	41	45
U. S. Fidelity & Guaranty.....	100	105	110

**Miscellaneous Stocks.**

G. B. & S. Brewing Co.....	100	67½	7½
United Elec. L. & P. Pref.....	50	38½	39½
Cotton Duck Voting Trust.....	100	5	5¼
Consolidation Coal.....	100	67	70
Alabama Con. C. & I. Com.....	100	17½	18½
Alabama Con. C. & I. Pref.....	100	60	...
Consolidated Gas.....	100	82½	84

**Railroad Bonds.**

Albany & Northern 5s.....	93½	95
Atlanta & Charlotte 1st 7s, 1907.....	107	110
Atlantic Coast Line Con. 4s.....	98¼	98½
Carolina Central 4s.....	97¼	97½
Char. Col. & Aug. 1st 5s, 1910.....	117	...
Char. Col. & Aug. 2d 5s, 1910.....	110	...
Coal & Iron Railway 5s.....	105¾	106¼
Columbia & Greenville 1st 6s, 1916.....	117	...
Florida Southern 4s.....	95	96
Georgia, Car. & North. 1st 5s, 1929.....	111	112
Georgia South. & Fla. 1st 5s, 1945.....	114¼	116
Georgia Pacific 1st 6s, 1922.....	122	...
Petersburg, Class B 6s, 1926.....	120	...
Piedmont & Cum. 1st 5s, 1911.....	105½	...
Raleigh & Augusta 1st 6s, 1926.....	122	...
Richmond & Danville Gold 5s, 1915.....	112	113
Seaboard & Roanoke 5s, 1925.....	111¼	111½
Virginia Midland 1st 6s, 1906.....	101½	...
Virginia Midland 2d 6s, 1911.....	111	112½
Virginia Midland 3d 6s, 1916.....	112	...
Virginia Midland 5th 5s, 1926.....	112	...
West. North Carolina Con. 6s, 1914.....	115	116½
West Virginia Central 1st 6s, 1911.....	112¼	112½
Wilmington, Col. & Aug. 6s, 1910.....	109	...
Wilmington & Wel. Gold 5s, 1935.....	116	...
Charleston City Railway 5s, 1923.....	107	...
Charleston Con. Electric 5s, 1909.....	87	90
Knoxville Traction 1st 5s, 1928.....	100	...
Newport News & Old Pt. 5s, 1938.....	99	...
Norfolk Street Railway 5s, 1944.....	107	...
United Railways 1st 4s, 1949.....	90½	91
United Railways Inc. 4s, 1949.....	46½	46¾
Seaboard 4s.....	81	81½
Seaboard 3-year 5s.....	96¾	...
Seaboard 10-year 5s.....	108¾	109¾
Augusta Railway & Electric 5s.....	102	...
Lexington Railway 1st 5s.....	100	103
Macon Railway & Light 5s.....	89¾	91¼
Norfolk Railway & Light 5s.....	90¾	91
Georgia & Alabama Con. 5s.....	109	109¾
Georgia Terminal 5s.....	107	...
South Bound 5s.....	106¾	111½
Atlanta Con. St. Ry. 5s.....	106¾	...

**Miscellaneous Bonds.**

Mt. V. & Woodby's Cot. Duck 5s.....	68	69
Mt. V. & Woodby's Cot. Duck Inc.....	18¼	19
G. B. & S. Brewing 1st 3-4s.....	54½	55
G. B. & S. 2d Income.....	26¼	27
United Elec. Light & Power 4½s.....	95	95½
Atlanta Gaslight 1st 5s, 1947.....	101	...
Consolidated Gas 6s, 1919.....	110¾	111
Consolidated Gas 5s, 1939.....	115¼	116¼
Alabama Con. C. & I. 5s.....	76	77

The Oconee County Bank, capital \$25,000, has been granted a charter to do business at Watkinsville, Ga. The incorporators are R. M. Jackson, A. W. Ashford and W. B. Langford.

The First National Bank of Tonkawa, O. T., capital \$25,000, has been authorized to begin business with the following officers: A. J. Esch, president; C. R. Brooks, vice-president, and W. A. Brooks, cashier.

The Bank of Hendricks, W. Va., has begun business. The officers are C. D. Gillespie, president; G. E. Davis, vice-president; I. A. Canfield, cashier. Mike Finger, B. S. Finger, A. M. Stanley and I. A. Canfield are also directors.

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Greenwood, Miss.—The Bank of Le Flore has purchased the entire issue of \$100,000 of 4 per cent. 25-year county courthouse bonds.

[For Additional Financial News, See Pages 30 and 31.]



